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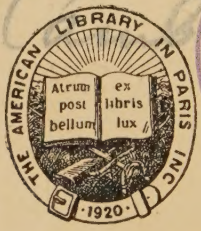

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John J. Parsons

BANKING AND CREDIT

A TEXTBOOK FOR COLLEGES AND SCHOOLS
OF BUSINESS ADMINISTRATION

By

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PREFACE

The field of banking and credit is so extensive that it is impossible to describe all its features in a volume of moderate compass. This text is therefore restricted in its content. It is written primarily to meet the needs of the individual who uses the bank for credit accommodation; its aim is to explain the problems confronting the customers of a bank, and the significant factors that control the terms and conditions upon which credit may be obtained.

The different forms of credit instruments are described and emphasis is placed upon procedure by which loans are obtained and the methods of determining credit risks. To make room for this, less attention is given to the history of banking, to investment forms of banking, and to theoretical questions concerned with the nature and principles of money and credit. It is assumed that the reader has some familiarity with the chapters on money and banking which are found in all elementary texts on economics, and the purpose of this volume is to supplement these chapters by more detailed description and illustration of actual practice in the business world.

A few specific references are given at the end of each chapter to aid those who wish to read further on particular topics; and in the Appendix will be found carefully chosen problems and exercises with solutions, designed to make clear the customary process of banking and credit operations.

DAVIS R. DEWEY
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Cambridge, Mass.
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Banking and Credit

CHAPTER I

MONEY AND CREDIT

1. Close Relationship of Money and Credit.—In the highly complicated mechanism of economic processes which society has created for the carrying on of business, no parts have aroused more interest and inquiry than money and credit. They are closely allied with each other in their uses and are generally treated together under the heading of "exchange" by authors of systematic textbooks on the principles of economics. Notwithstanding this intimate relationship, they are fundamentally different in their origins and in many of their characteristics. It is therefore necessary to note briefly the essential nature of each before entering upon the explanation of the monetary system of the United States and the credit agencies and instruments which are in current use.

2. Meaning of "Money."—Money, by time-honored description, is a medium of exchange, a measure of value, a standard of deferred payments, and a store of value. These functions are so diverse that it is difficult to give a definition of money which will cover all its characteristics. Some authorities place the emphasis on the service which money renders as a standard of value; others on its use as a medium of exchange. As a result some limit the use of the term "money" to the instruments of exchange which have intrinsic or commodity value, thus exclud-

ing all forms of paper money; others include under the term all instruments which effect exchange.

The exchange of values is effected by a variety of instruments. Included in the list are gold bullion, coins minted by the government, promissory notes issued by the government, bank notes, checks of individuals and corporations, drafts, bills of exchange, acceptances, travelers' checks, certificates of deposit, postal money-orders, bills receivable, and promissory notes of individuals and corporations. For the ordinary transactions of retail trade and wage payments, small coins and paper money issued by the government or by banks are in familiar use, and to an increasing extent individual checks are employed in these settlements of indebtedness. In transactions involving larger sums checks are commonly used; and for payments at a distance, bills of exchange and drafts occupy a prominent place.

Not all of these instruments, however, are serviceable as a standard of value, although they are highly convenient as a medium of exchange. Gold, because of the worldwide estimation in which it is held, most completely satisfies the requirements of a standard of value, and to a certain degree it is a medium of exchange. Other instruments, however, may perform much of the exchange work of the community better than gold. A check is an excellent medium of exchange, but is worthless as a standard of deferred payments.

3. **Various Definitions of Money.**—The conflict of opinion in regard to the definition of money is well summed up by Conant in the opening pages of his treatise on "The Principles of Money and Banking." After limiting the definition of money to that "commodity of intrinsic value acceptable in exchanges which has become by law or custom the usual tender for debt," he continues:

> Put into more popular language, this means that the term money, under existing social conditions, is applicable to gold or

> silver coin, and should not be extended to the various forms of paper which economize the use of money. For most practical purposes, gold bullion held in bank reserves is properly classed as money, and falls within the definition given. . . . The use of the word money is extended by many authorities to different forms of credit obligations—by some to redeemable government paper or redeemable bank-notes; by others to irredeemable paper of either type; and by still others to the checks, deposit entries, and various written instruments which are employed in carrying on exchanges. The difficulty about these extensions of the definition beyond coined metal of intrinsic value is that there is no logical point at which the things included in the definition of money terminate. If the definition is extended to instruments of paper credit, it is not clear why it should stop with legal tender instruments and fail to include bank-notes which are not legal tender. If it is extended to the latter, it is not clear why it should not extend also to foreign bills of exchange, which are kept by many of the European banks as a part of their coin reserves, ready to be sold for coin whenever they have need for it.[1]

Although there is a wide difference between a gold coin and a check representing an order upon a bank to pay a certain sum, it is not necessary in a preliminary description of the various instruments of exchange which serve the needs of business society, to make a definitive and final choice of the media which are to be included under the term "money." Such a definition is important in the analysis of certain applications of monetary theory, as the quantity theory of money and the relation of money to prices, but further discussion on this point is deferred to a subsequent chapter.

4. The Nature of Credit.—The nature of credit can best be approached by considering some of the operations involved in the production of wealth. Among the agents which co-operate in

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[1] Vol. I, pp. 4–5. For further definitions of money, see W. A. Scott, Money and Banking, p. 1; F. M. Taylor, Some Chapters on Money, pp. 11–12; F. A. Walker, Money, Trade and Industry, p. 4; D. Kinley, Money, pp. 70–71; E. W. Kemmerer, Money and Prices, pp. 27–28; J. F. Johnson, Money and Currency, pp. 6–7.

production is capital. It may exist in the form of tools, machinery, workshops, factories, railway equipment, shipping, as well as of cash or money. For nearly all forms of industry the work of producing an individual commodity stretches over a considerable period of time. When the article is finished there is often a further addition of time before the commodity is purchased, and even then there may be a delay in the payment. The producer, therefore, must have the use of wealth not only to provide the initial equipment, to purchase raw material, to hire laborers who must be paid long before there are any returns, and to pay insurance and taxes which are imposed though the goods are not yet sold, but also to bridge over the delays before payment is received for the goods sold. The producer needs present purchasing power; he may have saved the capital which he uses, or he may borrow it. If he borrows it he employs the service of credit and the essential characteristic of this is the possession of present purchasing power in return for a promise to pay in the future. If the producer borrows in order to establish the initial enterprise he will probably borrow for a long period of time, obtaining capital from those who do not wish to employ it under their own supervision. The evidence of such borrowing will appear as long-time notes, bonds, and similar instruments. But even if borrowing is not necessary for the establishment of the initial undertaking, it is likely to occur before a final settlement is made in the sale of goods.

Economic organization is highly complex and there are many interruptions in the marketing of goods. Moreover, if there be an increasing demand for the goods in the production of which this producer is engaged, the use of more capital is required. Every effort is therefore made to obtain control of capital by the use of credit. Finished goods, even before they are sold, may be pledged to secure capital; and if the goods are sold but not paid for, the accounts may be pledged. If the producer has a previous record of success which inspires confidence, capital may be

borrowed without the pledge of any specific property. To provide these credits, a specialized economic mechanism has been devised, consisting of banking institutions and credit instruments. Thus by means of credit, capital as one of the agents of production is placed where it can be made more effective, and undoubtedly the development of these facilities is one of the most powerful influences in the creation of wealth on the scale which the world now enjoys.

5. Credit as an Exchange Factor.—Inasmuch as credit presumes the payment of money—and payment within a short time if the credit be of early maturity—credit instruments are often as convenient for the purposes of exchange as the money commodity itself. Communities in their economic development have constantly struggled to improve their methods of exchanging wealth; from primitive barter they passed to the use of monetary media which became standards of value. But with the growth of commerce and trade they have utilized a great variety of credit instruments which have become serviceable for exchange purposes. The credit tools devised to make capital more productive have also been found available for carrying on the work of exchange.

Some forms of credit, as the promissory notes of the government and of banks, may prove so acceptable that they readily circulate and become a part of the money stock. Their credit significance, however, must always be kept in mind, for they do not, simply through their creation, add to the wealth of the nation. The addition of $100,000,000 in gold increases the national wealth; the addition of an equal sum of promissory notes does not at the moment increase the total wealth. It may set in motion forces which will ultimately create wealth, for, as Mill states it, "although the production funds of the country are not increased by credit, they are called into a more complete state of productive activity."[2]

[2] J. S. Mill, Principles of Political Economy, Book III, Ch. XI.

The great increase in the production of wealth witnessed during the past century is due not only to the discovery of new mechanical processes and applications of natural and physical science, but in large measure also to the extension of credit facilities. So remarkable has been this extension of credit and so serviceable has been its uses in effecting the transfer of values, that some have been led into the error that commodity money could be abandoned and that all exchange operations might be satisfactorily performed through credit substitutes.

Authors of textbooks on economics usually treat the subject under four main headings: production of wealth, exchange of wealth, distribution of wealth, and consumption of wealth. As credit has become so large a factor in the operations of exchange, it is generally discussed under the second of the above headings. Exchange, therefore, includes not only the characteristics and functions of money, but also the use, development, and influence of credit instruments, the character of banking institutions which enlarge the use of credit, and the relation of the quantity of money, including credit substitutes, to prices and the money market. It must, however, be ever kept in mind that credit primarily has to do with the transfer of wealth in the form of capital as a productive agent. Because of its serviceability as a tool of exchange, however, it is allied to money, and the discussion of the one involves the discussion of the other.

6. Credit in Relation to Prices.—One further point should be raised before entering upon the following descriptive chapters. The use of credit makes available a mass of values as a medium of exchange. Does the addition of these credit media affect the value of the commodity money medium, and thus affect prices? Do credit tools, which undoubtedly aid money, under its narrowest definition, in the work of exchange, modify the value of money? If so, the development of credit assumes a new importance and its use becomes a price-making factor. This is a ques-

tion which has aroused much dispute, but its discussion is for the present deferred. It is raised at this point in order that the reader may recognize that credit may be more than an agency in rendering capital productive, or simply a part of the machinery whereby values are exchanged.

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CHAPTER II

STOCK OF MONEY

1. Legal Tender and Lawful Money.—Preliminary to the description of the different kinds of money, one special attribute of money—its use as legal tender or as lawful money—requires explanation. As will be presently noted, the United States has a composite body of monetary instruments. When our coinage system was established in 1792, silver as a monetary standard held an important position throughout the world. Congress authorized the use of both gold and silver as standard money. There were at the time few banks and their note issues were not large in comparison with metallic money. Within a few years banks began to multiply and their issues were large. These notes however had no special legal attributes; they were simply the promissory notes of the institutions creating them and their acceptance depended only on public confidence.

Again, as the result of urgent financial need of the government, Congress at various times authorized the issue of promissory notes by the government, and during the Civil War, in order to strengthen this financial prop, made the notes legal tender. State bank notes were driven out of circulation by taxation and national bank notes took their place. The inconvenience of using gold and silver as media led to the use of substitutes in the form of certificate money. And more recently, in the attempt to reform our banking system, the Federal Reserve Act provided for a new form of note designed ultimately to eliminate the national bank note.

Thus from time to time new forms of money have been added. But as the government is slow in every department of political activity to discard old forms, so in the money system it has re-

tained varieties of money which have no immediate significance and which would probably find no place if a new monetary system should be established in accordance with present economic needs. Silver, for example, has been discarded as a standard by nearly all nations; but although the United States no longer provides for free coinage of silver dollars, it retains a certain portion inherited from the period when silver was recognized as a standard money. So, too, the federal government issued a large amount of promissory notes during the Civil War. It redeemed a portion of these obligations but left the liquidation incomplete. There is therefore still in circulation a considerable volume of United States notes, although the government is abundantly able to meet this indebtedness. The plan to abolish the national bank note circulation by the substitution of federal reserve notes has been interrupted by the recent war. As a result of this past experience we possess a heterogeneous mass of monetary instruments.

Not all of them are legal tender or lawful money; that is, creditors cannot be forced by law to accept them in payment of indebtedness. The statutes define which kinds of money are legal tender and, in the absence of special contracts, these forms must be accepted, if tendered, whenever the amount of the payment is expressed in dollars.

2. Various Forms of American Paper Money.—This point may be illustrated by reference to the statements made on the various forms of paper money in circulation at the present time:

United States note, popularly known as "greenback":

> This note is a legal tender at its face value for all debts public and private, except duties on imports and interest on the public debt.

Gold certificate:

> This certifies that there have been deposited in the Treasury of the United States of America ..... dollars in gold coin pay-

able to the bearer on demand. [More specifically the federal statutes declare that] Such certificates shall be receivable for customs, taxes, and all public dues, and when so received may be reissued, and when held by any banking association may be counted as a part of its lawful reserve. (Act of March 14, 1900. sec. 6.)

By later legislation (December 24, 1919) these notes have been given full legal tender power.

Silver certificate:

This certifies that there have been deposited in the Treasury of the United States ..... silver dollars payable to the bearer on demand. This certificate is receivable for customs, taxes, and all public dues, and when so received may be reissued.

National bank note:

This note is receivable at par in all parts of the United States in payment of all taxes and excises and all other dues to the United States except duties on imports and also for all salaries and other debts and demands owing by the United States to individuals, corporations and associations within the United States except interest on the public debt.

Federal reserve note:

This note is receivable by all national and member banks and federal reserve banks and for all taxes, customs and other public dues. It is redeemable in gold on demand at the Treasury Department of the United States in the City of Washington, District of Columbia, or in gold or lawful money at any federal reserve bank.

Federal reserve bank note:

This note is receivable at par in all parts of the United States in payment of all taxes and excises and all other dues to the United States except duties on imports and also for all salaries and other debts and demands owing by the United States to individuals, corporations and associations within the United States except interest on public debt.

Some kinds of money are full legal tender in the satisfaction of all kinds of debt, both public and private; some are receivable for one purpose and not for another. Others have no legal tender attribute but because of their general acceptability perform most of the functions characteristic of money instruments. Gold coins and gold certificates of whatever denomination are legal tender; so are silver dollars. Subsidiary silver coins and minor coins are legal tender for limited amounts. United States notes are legal tender, though they may be excluded from certain governmental payments; and silver certificates are acceptable for some public debts but not for private debts. National bank notes and federal reserve bank notes are not legal tender but are receivable for all public dues except duties on imports, while federal reserve notes, though not legal tender, are receivable for all public dues without any restriction. In common business practice little regard is paid to these differences, but banking institutions which must hold reserves in legal tender money against outstanding obligations, whether of deposits or note issues, must note these distinctions, and to them the quality of the money held in their vaults is important.

The terms "legal tender" money and "lawful" money are not always synonymous. The term "legal tender" is explicit: It includes all forms of money, whether coins or paper credit notes, which the law compels creditors to accept. The significance of "lawful" money is not so exact. Although contracts and mortgages are frequently made pledging the payment of a certain sum of "lawful money of the United States" the courts have construed this phrase in some cases as meaning "legal tender"; in others, as any currency which is lawfully employed in buying and selling. Under this interpretation bank notes would be lawful money though not legal tender.

The significance of the legal tender quality is frequently overemphasized. Confusion of thought in regard to the attributes of money has led to a claim that because government promissory

notes are a good medium of exchange, they can be made to serve as a standard of deferred payments, simply by conferring upon the notes the legal tender quality. Legal tender legislation is an incident to a clearer definition of contracts. Value is determined by public estimation, a force far deeper than statute. If the government changes one term of the value ratio, buyers and sellers will through price adjustments change the other accordingly.

3. Monetary Stock and Money in Circulation.—A distinction is to be made between monetary stock, or the general stock of money, and money in circulation. According to official practice the Treasury Department includes under "monetary stock" gold coin, including bullion in the Treasury, standard silver dollars, subsidiary silver, United States notes, treasury notes of 1890, federal reserve notes, federal reserve bank notes, and national bank notes.

In 1920 (July 1), this monetary stock amounted to $7,894.4 million classified as follows:

	Millions
Gold coin (including bullion in the Treasury)	$2,694.0
Silver dollars	267.0
Subsidiary silver	258.9
United States notes	346.7
Treasury notes of 1890	1.7
Federal reserve notes	3,405.9
Federal reserve bank notes	201.2
National bank notes	719.0
Total	$7,894.4

In addition there were about $87 million of minor coins not included in the monthly statement of monetary circulation. This table does not include gold and silver certificates, for these are simply claims on other forms of money listed in the table. On the other hand, this table overstates the amount of money which is actually in circulation. Not all of the above stock is in circulation at the same time. Some of the gold is held by the Treasury

as a reserve against government promissory notes or greenbacks, and some is held by federal reserve banks as reserve against federal reserve notes. Moreover, the item, federal reserve notes, includes several hundred million dollars of notes not as yet issued for circulation. Of the general stock, $7,894 million, a part was held in the Treasury as assets of the government and a part by federal reserve banks and federal reserve agents against issues of federal reserve notes. This left for "money in circulation,"[1] only about three-fourths of the "general stock," or $6,088 million. This gives a per capita circulation of $57.21. Considerably less than half of the total stock is metallic money, and a part of this latter circulates in a representative form as certificates.

The following table shows the growth of the total monetary stock and money in circulation since 1900:

TOTAL MONETARY STOCK AND MONEY IN CIRCULATION
(In millions)

Year	Total Stock	Money in Circulation	Year	Total Stock	Money in Circulation
1901	$2,438	$2,175	1911	$3,556	$3,214
1902	2,563	2,249	1912	3,649	3,285
1903	2,685	2,368	1913	3,620	3,364
1904	2,804	2,519	1914	3,738	3,402
1905	2,883	2,588	1915	3,989	3,569
1906	3,071	2,737	1916	4,483	4,024
1907	3,116	2,773	1917	5,408	4,764
1908	3,379	3,038	1918	6,741	5,379
1909	3,406	3,106	1919	7,519	5,766
1910	3,420	3,102	1920	7,895	6,088

There have been wide fluctuations in the volume of money in circulation at different periods; and over long periods there has

[1] *The Federal Reserve Bulletin* in its current issues gives a different figure for the amount held by federal reserve banks and agents, as, for example, for the date under consideration. July 1, 1920, $2,021 million. The subtraction of this sum, together with the $485 million held by the government, leaves $5,381 million in circulation. This results in a per capita circulation of $50.19, as compared with $57.21 in the Treasury statement.

been an increase not only in the total amount but also in proportion to the population. This is seen in the following table:

INCREASE IN PER CAPITA CIRCULATION SINCE 1880

July 1	Amount (Millions)	Percentage Gain in Ten Years	Per Capita	Percentage Gain in Ten Years
1880	$973.4	....	$19.41	....
1890	1,429.3	47	22.82	16
1900	2,055.2	44	26.93	17
1910	3,102.4	57	34.33	29
1920	6,087.6	96	57.21	65

Most marked was the increase after 1915. In that year the per capita circulation was $35.44. In the next five years the per capita gain was between $4 and $5 annually.

4. Gold Coinage.—Although gold constitutes an important part of the total monetary stock, ranging from two-fifths to more than half during the past ten years, it is rarely seen in circulation. A part is held by the Treasury in trust to secure the more convenient gold certificates and as a reserve to protect the legal tender notes, and a much larger portion is in the vaults of the federal reserve banks, kept as reserve against their deposit and note obligations, and as a gold settlement fund for clearing house purposes. As reserves, gold accomplishes a greater amount of exchange service than if employed as an active circulating medium. Only a small portion of the total gold stock is to be found outside of the Treasury and the federal reserve banks.

The monetary standard is gold and the gold dollar (its equivalent, but not coined) is the standard unit of value. Gold bullion may be coined without any limitations when presented at the mint. Gold coin is legal tender at its face value for all debts, when not below the standard weight and limit of tolerance pre-

scribed by law; and when below standard and limit of tolerance it is legal tender in proportion to its weight. Gold is now coined into quarter-eagles ($2.50), half-eagles ($5), eagles ($10), and double-eagles ($20). During limited periods $1 pieces (1849–1889; 1902–1905) and $3 pieces (1854–1889) were coined, but the small size of such coins made them unacceptable for circulation.

5. Gold Dollar and Mint Price of Gold.—The weight of the gold dollar (not now coined) is 25.8 grains, of which nine-tenths, or 23.22 grains, is pure gold. The difference in weight is made up of copper alloy in order to give hardness to the coin. The weight of a new gold eagle or double-eagle must not vary more than half a grain from the standard weight fixed by law, and that of the smaller gold coins must not vary more than a quarter of a grain. This allowable variation is called "tolerance of the mint." The tolerance in fineness cannot exceed more than 1 one-thousandth. Coins are subject to loss in weight owing to abrasion; and after a circulation of twenty years and, at a ratable proportion of any period less than twenty years, the law permits a deviation from the standard weight of 1/2 per cent without diminishing the legal tender value of coins. If the loss be more than that, the coins are legal tender in proportion to their actual weight. The following table shows the standard weights and limits of deviation of gold coins (20 years old):

STANDARD AND LEAST CURRENT WEIGHT OF GOLD COINS

Denomination	Standard Weight in Grains (Nine-tenths fine)	Per Cent Abrasion in Grains (1/2 Per Cent)	Least Current Weight in Grains
Double-eagle....	516.0	2.58	513.42
Eagle.....	258.0	1.29	256.71
Half-eagle.....	129.0	0.64	128.36
Quarter-eagle....	64.5	0.32	64.18

The mint price of an ounce of pure or fine gold is $20.67183 and of standard gold, $18.60465. These two values are determined by dividing the number of grains in a troy ounce by the number of grains of gold in the standard gold dollar, thus:

$$480 \div 23.22 = 20.67183$$

and

$$480 \div 25.8 = 18.60465$$

The mint price of gold is simply a quantity relationship between gold in the form of bullion and gold in the form of coins, and represents the number of dollars that physically can be made from an ounce of metal. Obviously this ratio is bound to remain fixed so long as the coinage laws are unchanged. The factors determining the mint price of gold are thus essentially different from those determining the price of wheat or other commodities. The price of wheat does not mean the number of bushels of wheat that a given quantity will command in the market but, instead, the amount of a second article, and in particular the monetary medium.

6. Coinage Charges.—The government mints receive and immediately pay for all gold bullion of standard fineness which may be presented. No charge or seigniorage is made for this exchange. If the gold be below the standard of fineness, a charge is made for parting (the separation from silver) or refining (the elimination of base metal). The rates of these charges are prescribed by the Director of the Mint and vary from 1/2 cent per ounce to 4 cents per ounce, according to the purity of the bullion. Deposits, however, containing 800 thousandths or more of base metal are declined, and no charge is made for bullion containing 9.92 thousandths of gold and upward. A charge of 2 1/2 cents per ounce for the copper alloy is also made, the amount to

be calculated as one-ninth of the fine weight of the gold.[2] According to the convenience of the mint, the bullion so received may be converted into coin or carried as gold bullion in the general fund of the Treasury or in the reserve of the Treasury against certificates or legal tender notes. The provision allowing bullion to be carried against gold certificates dates only from 1911; prior to that date all bullion was carried in the general fund. Gold coin will be delivered to any applicant by the Treasury for gold certificates, United States notes, treasury notes of 1890, or federal reserve notes, the consignee paying the transportation charges.

Foreign gold coins which come into this country are generally melted into bars and subsequently coined into United States coins. Although a law was enacted in 1911 permitting the Treasury Department to carry a certain amount of foreign gold coin in its reserve fund against which gold certificates may be issued, importers of foreign coin frequently do not find it profitable to dispose of the gold to the Treasury, for when the foreign coins are presented there is a heavy deduction for tolerance, abrasion, or light-weight coins. Importers of coin therefore may prefer to turn the coin into the assay office where they get more as bullion.

For the convenience of exporters and manufacturers, gold is made up into bars. Commercial gold bars range in fineness from 990 to 999 thousandths fine, the weight and fineness being stamped on each bar. The mint exchanges fine gold bars for gold coin in lots of not less than $5,000 in value. The bars range in value as follows: $100, $200–$300, $500–$600, and $5,000. As the loss by abrasion of coins is to be considered, exporters of gold generally prefer the use of bars.

For the work of refining, assaying, and coinage, the government operates several mints. There are coinage mints at Phila-

[2] See Problem 1, Appendix A, for example of calculation.

delphia, San Francisco, and Denver; mints at New Orleans and Carson City conducted as assay offices; and assay offices at New York, Seattle, Boise, Helena, Salt Lake City, and Deadwood; these latter are bullion purchasing agencies for the mints. Refineries are operated at New York, San Francisco, and Denver institutions.

7. **Gold Stock.**—The United States holds a very considerable part of the world stock of gold available for money. In the year before the outbreak of the Great War nearly one-quarter (23 per cent) was credited to this country, and during the war period the gold money stock of the United States further increased. As the world production of gold fell off and gold imports were large, the proportion held by the United States in 1920 was swollen to about a third of the total world stock.

The ten countries holding the largest amounts of gold in 1918 were:[3]

GOLD HOLDINGS OF SEVERAL COUNTRIES

Country	Amount (Millions)	Per Capita
United States	$3,165*	$30.14
Great Britain	720	15.61
France	664	16.73
Germany	539	7.95
Spain	439	21.39
Japan	391	6.99
Argentina	322	39.90
Netherlands	278	42.22
Italy	234	6.41
Canada	131	16.21

* Between 1918 and 1921 the share of the United States slightly decreased.

[3] Report of the Director of the Mint, 1919, p. 282.

The possession of a large fraction of the world's gold monetary stock does not necessarily imply that a country is in a superior financial position. As will be subsequently seen, gold is the basis of credit money, and if the credit instruments and institutions be wisely organized, a small amount of gold may be as effective as a larger amount in supporting the financial operations of a nation. Spain in 1918, it will be observed, had more gold per capita than Great Britain or Japan.

The significance of this stock of gold in terms of physical measurement is of interest. A cubic foot of gold is worth $363,180. If the world's gold monetary stock be estimated at $9 billion it would occupy a space of 24,781 cubic feet. This represents a room about 50 feet square and 10 feet in height.

8. Production of Gold.—The total production of gold since 1492 is estimated (1919) at $17,765 million (859 million fine ounces). A considerable amount of gold goes into the industrial arts and some has been lost or worn out. The following table shows the world's production since 1492:[4]

World Production of Gold since 1492

Period	Value
1493–1600	$501,640,000
1601–1700	606,315,000
1701–1800	1,262,805,000
1801–1900	7,695,570,000
1901–1919	7,698,934,000
Total	$17,765,264,000

As much gold was mined in the first twenty years of this century as in the previous one hundred years. Since 1900 the annual value of the gold product of the world and of the United States is estimated as follows:[5]

[4] Report of the Director of the Mint, 1920, p. 294.
[5] Statistical Abstract of United States, 1920, pp. 800, 822.

ANNUAL GOLD PRODUCTION SINCE 1900

(In millions)

Year	World	U. S.	Year	World	U. S.
1901	$261	$79	1911	$462	$97
1902	297	80	1912	466	93
1903	328	74	1913	460	88
1904	347	80	1914	439	95
1905	380	88	1915	469	101
1906	403	94	1916	454	93
1907	413	90	1917	419	84
1908	443	95	1918	384	69
1909	454	100	1919	365	60
1910	455	96	1920	325	50

For several years, 1909–1916, the annual product was over $450 million. Disturbances caused by war and the increased cost of labor and supplies entering into mining caused a decline, showing a production in 1920 of $325 million, a decrease of nearly one-third.

The annual production from our own mines, including Alaska, is about one-fifth of the total world's supply. The gain which the United States has made in gold stock in the past few years has been largely due to imports, as seen in the following table:

IMPORTS AND EXPORTS OF GOLD, 1901–1920

(In millions)

Years	Exports	Imports	Excess of	
			Exports over Imports	Imports over Exports
1901–1905	$322.9	$316.8	$6.1	.....
1906–1910	372.5	446.4	.....	$73.9
1911–1915	415.9	429.9	.....	14.0
1916–1920	1,282.9	2,101.1	.....	818.2

In a period of rising prices no relief can be given to the gold-mining industry by increasing the mint price of gold. It is understood, of course, that the country will depart in no way from its gold standard. Suppose that the mint price were increased from approximately $20 to $40 per ounce. The gold content of the dollar and hence its purchasing power would be halved. Prices would be thus doubled but the purchasing power of gold per fixed unit, as an ounce, would not be changed, so that the net effect would be nil.

9. **Proposals to Encourage Gold Mining.**—Although an enormous mass of gold has been mined in the past hundred years as compared with previous centuries, and the annual world production during the past twenty-five years has been far greater than during the period of the notable discoveries in California and Australia in the middle of the nineteenth century, the present decline in the annual yield is regarded by some as a serious danger. A decrease naturally affects adversely those engaged in the gold-mining industry. Apart from this it is held to be a matter of public concern, since gold is the standard of value, is the final basis of credit, and is in universal demand for banking reserves. Indebtedness, both public and private, is legally payable in gold coin of the present weight and fineness. New countries in the past half-century have changed from a silver to a gold standard, thus increasing the strain. There has been also a worldwide increased use of gold in the industrial arts. The world production in 1919, due largely to rising costs, was less than in any year since 1904. Production in the United States declined from $101 million in 1915 to $50 million in 1920, while the industrial consumption increased. For jewelry, gold leaf, gold plate, and for purposes of ornament and decoration it is estimated that the world is now using more than three times as much gold as was produced from the mines of the world in 1840.

There is no law in the United States, as exists in most coun-

tries, against the melting of coin for industrial use. Manufacturers in other countries therefore, who would be obliged to pay a premium in order to divert gold from their own mints, may find it more profitable to buy gold coin in this country. To protect our gold stock and also to encourage gold mining, it has been proposed that gold-miners be paid a premium of $10 for every fine ounce produced, and that an excise duty of an equal amount be laid on the use or sale of gold in the United States for other than monetary purposes. Under this arrangement it is claimed that the tax would yield sufficient revenue to pay the premiums granted as a mining subsidy.[6] Such proposals, however, have received but little support. With the readjustment of industry and technical improvements in the extraction of gold it is probable that the gold product will increase in the near future.

10. Silver Dollars.—Until 1873 the coinage of silver dollars like that of gold coins was unrestricted, but in the coinage act of that year this privilege was omitted. Silver dollars had previously disappeared from use, since silver as bullion was worth more than the mint offered at the prevailing bimetallic ratio. But about the same time a sudden drop took place in the value of silver, due to new supplies in the United States and the sale of silver by Germany, which adopted a single gold standard. Prices of commodities were also falling, and farmers, particularly in the West, claimed that this was due to a contraction of the currency. As a result of this agitation the Bland Act (1878–1890) was passed, authorizing the purchase of a limited amount of silver to be coined into dollars; and the Sherman Act (1890–1893) increased this amount. Only indirectly, however, did the purchases under the latter statute result in the coinage of dollars: the purchases of silver were made by the issue of treasury notes, the bullion being held for coinage if needed for the redemption of the notes.

[6] See Our Vanishing Gold Reserve, a pamphlet published by the American Mining Congress, 1919, Washington.

Shortly after the Gold Standard Act of 1900 these treasury notes were retired (less than $2 million now outstanding) and the bullion previously purchased coined into dollars and subsidiary silver coins. When this was accomplished the coinage of silver dollars ceased (1904).

Silver dollars are legal tender to any amount. The weight of the coin is 412 1/2 grains, nine-tenths fine, or 371 1/4 grains of pure silver. The bullion value of a silver dollar is determined by dividing the product of 371.25, multiplied by the market price of silver per ounce, by 480 (the number of grains in a troy ounce). Thus if the market quotation for silver is 68 1/8 cents per ounce:

$$\frac{371.25 \times 68\ 1/8}{480} = 52.7 \text{ cents}$$

Except for a few months in 1919 and 1920 the bullion value of a silver dollar since 1873 has been less than a dollar in gold, and during the ten years subsequent to 1893 its bullion value was less than 50 cents. In 1902 it fell to $0.367; in other words, a dollar in gold would buy 1,011.16 grains of pure silver, as compared with 371 1/4 grains of silver if it had not depreciated in value. As the Treasury bought the silver, both under the Bland Act of 1878 and Sherman Act of 1890, at its bullion value, a large amount of seigniorage or profit was made. During the entire period, 1878–1904, this amounted to $118 million on a coinage of $570 million.

During the period of the recent war the value of silver rose, and an act (the Pittman Act) was passed April 23, 1918, authorizing the government to melt and sell as bullion $350 million of silver dollars[7] at a price to be determined by the Treasury, but not less than $1 per ounce of silver 1,000 fine. Under the authority of this act about 208 million fine ounces were sold to the British government for use in India. As a result the stock of silver dollars decreased. The decrease, however, will not be permanent, for the Pittman Act provides that domestic silver be repurchased to

[7] *Federal Reserve Bulletin*, 1918, Vol. IV, p. 395.

replace the dollars melted, at a fixed price of $1 per ounce. In 1920 the mint service began the purchase of silver, and in the following year its coinage into silver dollars, to replace those melted down under the Pittman Act. The price of foreign silver fell in 1920 to much less than $1 an ounce, but because of the preference given to domestic silver for the needs of the mint, the price of the latter is approximately $1 and will remain so until the replacement has been made.

11. **Subsidiary Silver.**—Until 1853, the coinage of subsidiary silver coins (half-dollars, quarter-dollars, dimes, and half-dimes) was free; the coins were proportionate in weight to the silver dollar and they were legal tender in any amount. In 1853, owing to the rising value of silver in the silver bullion market which led to the melting of coins, the weight of the coins was reduced—the half-dollar from 206.25 grains to 192.9 grains, and the quarters and dimes proportionately. By this change it was unprofitable to melt the coins. In coinage the tolerance in weight permitted is 1.5 grains and the deviation in fineness, 3 thousandths. Subsidiary silver is now legal tender for payments up to $10. Its coinage is not free but the mint purchases silver in the open market and mints coins in denominations according to public demand. Upon deposit of other funds, the Treasury ships the coins to the applicant, the consignee paying transportation charges.

12. **Minor Coins.**—The current minor coins are the 1 cent bronze, made of 95 per cent copper and 5 per cent tin and zinc, and the 5 cent nickel, made of 75 per cent copper and 25 per cent nickel. The outstanding minor coinage is approximately $87 million. Though of considerable amount, it is not included in the official statements of the stock of money in the United States. These coins are legal tender up to 25 cents in any one payment. They are shipped by the mint upon application, the consignee paying the cost of transportation.

13. Gold and Silver Certificates.—Gold and silver certificates do not add to the total stock of money. They circulate in place of coin which to an equal amount is held in trust by the Treasury. They are simply "warehouse receipts," used as a convenient substitute for the heavier coin. Their use also saves loss by abrasion of coins.

Gold certificates are issued, upon deposit of gold coin, bullion, and foreign coin, in denominations ranging from $10 to $10,000. The larger denominations are of special advantage in making bank settlements. In the past few years, due to the development of the federal reserve banking system, there has been a marked decline in the amount of gold certificates. At the close of 1916 there were $1,224 million in circulation. With the absorption of gold by the federal reserve bank, gold was used for security of the new federal reserve notes which began to be freely issued in 1917. As a result the supply of gold certificates in four years decreased by more than half. Although gold certificates represent 100 per cent of gold specifically lodged with the Treasury for their redemption, they were not made legal tender until December 24, 1919.

Silver certificates are issued in denominations between $1 and $100 upon deposit of silver dollars. Silver certificates are not a legal tender, but are receivable for all public dues and taxes.

14. United States Notes.—Aside from the gold and silver certificates and treasury notes of 1890, there are four varieties of paper currency in circulation: United States notes, national bank notes, federal reserve notes, and federal reserve bank notes.

The United States notes, sometimes called "greenbacks" or "legal tenders," are an inheritance of the Civil War. Since 1878 the amount outstanding has been $346,681,016. The notes are legal tender in payment of all debts, public and private, except duties on imports and interest on the public debt. These exceptions, which have little practical significance now, were introduced

into the original law in order to make certain that the government had a gold fund from custom duties and to reassure the buyers of bonds that their interest would not be paid in depreciated currency. Notes are issued in denominations of from $1 to $1,000, but the larger part are in the smaller denominations of $1, $2, and $5. Against these notes there is a gold reserve of $150 million, or about 45 per cent. The power of Congress to make paper currency legal tender was early contested in the courts. At first the Supreme Court decided adversely, but later the decision was reversed and their constitutionality affirmed.

It is frequently proposed that these notes be retired, on the ground that the government should not in normal times give sanction to the circulation of promissory notes having a legal tender quality. In opposition, however, it is urged that as these notes are mostly in small denominations serving as pocket money, if retired, bills of other forms would be needed. Moreover, funds raised by taxation would have to be provided for their redemption.

15. National Bank Notes.—These notes also have their origin in the legislation of the Civil War period. Hitherto notes were issued by hundreds of state banks. Many of these were sound and their credit good. Failures, however, were frequent and in some of the states the protection given to holders of notes issued was inadequate. Counterfeiting also was easy when there was a great variety of notes. But more powerful than any other reason was the desire to stimulate the purchase of government bonds, by the establishment of a national banking system, whereby institutions were granted the privilege of note issue based upon the deposit of government bonds. In order to force banks desiring the privilege of note issue into the national system, a heavy tax was placed on the notes of all state banks. The issue of national bank notes, notwithstanding the recent establishment of the federal reserve banking system with note-issuing powers, has continued to the present time, and these notes constitute an im-

portant part of the circulating medium. The principal fact to observe here is that the issue of these notes is inelastic, being determined by the deposit of certain classes of government bonds which are limited in volume and which must be previously purchased at the market price.

The Federal Reserve Act plans for the gradual retirement of these notes, but the demands of recent war financiering have delayed the carrying out of this intent and it seems probable that the national banking currency will remain a part of the circulating medium. The amount in circulation January 1, 1921, was $708 million, as compared with the maximum in 1915 of $785 million. National bank notes are not a legal tender but are receivable by the government for all public dues except duties on imports. Moreover, each national bank must receive the notes of all other national banks at par.

16. Federal Reserve Notes.—The federal reserve notes constitute by far the largest part of the paper currency at the present time, amounting in 1920 to more than two-thirds of the total paper currency. These notes are issued through the twelve federal reserve banks, secured by certain classes of commercial paper, bills of exchange, acceptances, gold or gold certificates. Inasmuch as the volume of commercial paper and bills of exchange changes with the fluctuation in business enterprise, the note-issuing power is elastic.

17. Federal Reserve Bank Notes.—The federal reserve bank notes constitute but a slight portion of the currency. Under the Federal Reserve Act of 1913 the federal reserve banks were given authority to issue federal reserve bank notes secured by United States bonds, which they purchased from national banks in accordance with a plan of ultimate retirement of national bank notes. It was not intended that the notes should play a permanent part in the currency system. By subsequent amendments

they were also issued upon the pledge of United States certificates of indebtedness, or 1-year gold notes; and in 1918 their issue was further extended to take the place of silver certificates called in from circulation when silver dollars were melted and sold as bullion under the Pittman Act.

18. Amounts of Different Kinds of Money.—From the foregoing description it will be seen that a great variety of monetary instruments has been used at different periods. This is more clearly shown in the table on page 29.

This table may be further condensed to show: (1) gold, including gold certificates; (2) silver, including silver certificates; (3) government promissory notes, including United States notes, treasury notes of 1890, and currency certificates; (4) national bank notes, including federal reserve bank notes; (5) federal reserve notes; and (6) subsidiary silver coins. (See page 30.)

19. Credit Forms of Money.—The value of all the forms of money listed in the above tables, except gold and gold certificates, depends in some degree upon credit. The United States notes are promises of the government and are supported by its credit, reinforced by a partial gold reserve; the national bank notes and federal reserve bank notes are secured by government obligations which are simply promises of the government to pay to the holders of the bonds at some designated date the debt due; and the federal reserve notes are secured by commercial paper (notes and bills of exchange), also backed up by a partial gold reserve. The position of the silver dollar is not so clear. It is technically standard money, but its bullion value is less than its face value. The Gold Standard Act of 1900, however, pledges the government to maintain "all forms of money issued or coined by the United States" at a parity with gold.

20. Changes in Composition of Monetary Medium.—The table on page 29 shows that there have been marked changes in

Detailed Table of Monetary Circulation, 1880–1920

(In millions)*

July 1	1 Gold Coin and Bullion Not Covered by Certificates	2 Gold Certificates	3 Standard Silver Dollars Not Covered by Certificates	4 Silver Certificates	5 Subsidiary Coin	6 U. S. Notes	7 Currency Certificates, 1872	8 Treasury Notes, 1890	9 National Bank Notes	10 Federal Reserve Bank Notes	11 Federal Reserve Notes	12 Total Money in Circulation	13 Per Capita	14 Money in the Treasury
1880	$225.7	$8.0	$20.1	$5.8	$48.5	$313.7	$14.2	.....	$337.4	.....	.....	$973.4	$19.41	$212.2
1890	374.3	130.8	56.3	297.6	54.0	322.8	11.9	.....	181.6	.....	.....	1,429.3	22.82	255.9
1900	610.8	200.7	65.9	408.5	76.2	314.0	3.7	$75.3	300.1	.....	.....	2,055.2	26.93	284.5
1910	590.9	802.8	72.4	478.6	135.6	334.8	.....	3.7	683.7	.....	.....	3,102.4	34.33	317.2
1915	590.1	1,072.8	64.6	482.0	159.3	332.3	.....	2.2	785.4	.....	$80.4	3,569.2	35.44	420.2
1920	839.2	390.7	134.0	118.3	252.3	337.1	.....	1.7	696.1	$198.7	3,119.6	6,087.6	57.21	1,806.9†

* Table based upon figures published in Statistical Abstract of the United States. These differ slightly from those published in the monthly Circulation Statement.

† Including in 1920 gold and gold certificates held by federal reserve agents against issue of federal reserve notes, and also federal reserve notes held by federal reserve banks.

More Condensed Table of Monetary Circulation, 1880–1920

(In millions)

Year	Gold, Including Gold Certificates		Silver Including Silver Certificates		U. S. Notes, Currency Certificates and Treasury Notes of 1890		National Bank Notes and Federal Reserve Bank Notes		Federal Reserve Notes		Subsidiary Coins		Total	
	Amount	Per Cent	Amount	Per Cent	Amount	Per Cent	Amount	Per Cent	Amount	Per Cent	Amount	Per Cent	Amount	Per Cent
1880	$233.7	24.0	$25.9	2.6	$327.9	33.7	$337.4	34.7	.....	.....	$48.5	5.0	$973.4	100.0
1890	505.1	35.3	353.9	24.7	334.7	23.4	181.6	12.7	.....	.....	54.0	3.8	1,429.3	100.0
1900	811.5	39.5	474.4	23.1	393.0	19.1	300.1	14.6	.....	.....	76.2	3.7	2,055.2	100.0
1910	1,393.7	44.9	551.0	17.7	338.5	10.9	683.7	22.0	.....	.....	135.6	4.4	3,102.4	100.0
1915	1,662.9	46.6	546.6	15.3	334.5	9.4	785.4	22.0	$80.4	2.3	159.3	4.5	3,569.2	100.0
1920	1,229.9	20.2	252.3	4.1	338.2	5.5	894.8	14.7	3,119.6	51.2	252.3	4.1	6,087.6	100.0

the composition of the monetary medium. Government credit notes have diminished to a small proportion; silver is of slight importance; bank notes based upon bonds, though increasingly large in amount, are a smaller percentage of the total; and gold in circulation declined from 44.9 per cent in 1910 to 20.2 per cent in 1920. The new form of credit money, federal reserve notes in 1920, constitutes more than half the circulation. It must not, however, be assumed that the monetary system is necessarily weakened by this change, for back of the federal reserve notes is an enormous mass of gold. In the table on page 29 this is merged in the last column, "Money in the Treasury," which includes gold held by federal reserve banks and agents as reserve against federal reserve notes. Without this impounded gold the circulation of federal reserve notes would hardly be possible. To a very considerable extent the gold certificates have been retired, as seen in the decrease between 1915 and 1920, and the gold thus withdrawn from the Treasury is now held by the federal reserve banks to support the issue of credit notes which these institutions are making.

21. Redemption of Moneys.—The Treasury Department is continuously engaged in the exchange of moneys and in redeeming notes and the issue of new ones, because the old notes are worn out, or notes of different denominations are desired, or other forms of money are in demand. United States notes and gold certificates are redeemable in gold coin, treasury notes of 1890 in gold coin or silver dollars, silver certificates in silver dollars, national bank notes in lawful money, and federal reserve notes in gold or lawful money. Silver dollars, being standard, are not redeemable, but may be exchanged for gold according to Treasury practice. Subsidiary silver and minor coin in multiples of $20 may be redeemed in lawful money. During the crop movement in the latter part of the year notes of large denominations are sent in for redemption in order to secure small bills, while in the

first half of the year large bills are in greater demand. The average cost for the issue of each note of paper money, including the making, issue, and redemption, is about 1 1/2 cents (1.526).

Paper currency in all its different forms, when unfit for circulation—if not mutilated so that less than three-fifths of the original bill remains—is redeemable at the face value of the note. If less than three-fifths but more than two-fifths remains, the note will be redeemed at half its face value, but the presentation of any fragment will secure redemption of full face value, if accompanied by satisfactory affidavits as to the destruction of the missing portions. Reimbursement in no case is made for currency totally destroyed. Mutilated and light gold coins are not redeemable at their face value, but can be sold as bullion. Light silver coins, however, are generally redeemable at their face value.

Banks are constantly on the alert to detect counterfeit money and very little remains long in circulation. When discovered, the loss falls on the customer who deposited it; the note is stamped "Counterfeit" and turned over to the Secret Service Department of the government. Raised money is more frequent than counterfeit. As banks sort bills by denominations, and each denomination bears a different engraving, a raised note is easily detected.

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NOTE: Problems 1–7, with solutions, in Appendix A of this volume should be consulted.

CHAPTER III

COMMERCIAL CREDIT INSTRUMENTS

1. The Use of Commercial Credit Instruments.—The conduct of modern business has made indispensable the use of certain credit instruments which serve as media of exchange. They make possible the purchasing of merchandise on deferred payments, facilitate the borrowing of money to meet current operating needs, and, in general, play a large part in the financial operations of commercial transactions. Settlements may be effected between one person and another by a bill of exchange in its variety of forms, such as a check, a draft, or an acceptance; by a promissory note; by a postal, express, telegraphic, or bank money-order; or by a certificate of deposit.

Commercial credit instruments are to be distinguished from investment credit instruments: the former come into existence largely in the borrowing of working capital and the financing of merchandise sales on credit; the latter are chiefly stocks, bonds, and short-term notes, whose function is to provide a medium for securing funds for fixed capital requirements. Commercial credit instruments are also to be differentiated from commercial credit documents as bills of lading or warehouse receipts; the former are payable in money while the latter serve principally as evidence of title to or rights in goods.

2. Definition of Bill of Exchange.—The term "bill of exchange" is used in a broad sense to refer to a written order to pay money, when drawn in proper form. According to the Uniform Negotiable Instruments Law a bill of exchange is defined as "an unconditional order in writing addressed by one person to another, signed by the person giving it (called drawer) requiring

the person to whom it is addressed (called drawee) to pay on demand or at a fixed or determinable future time a sum certain in money to order or to bearer." This definition contains a brief statement of the requirements to which an instrument must conform if it is to be a negotiable bill. A written order to pay money which fails to comply with all of these conditions cannot properly be called a bill of exchange, but it is not correct to assume that any precise formula of words or special phraseology is necessary to constitute a legally valid bill.

No. *101* Boston, Mass., *Jan. 16,* 19*22*

Sixty days after *sight* pay to the order of

Seventh National Bank

One hundred and thirty-five Dollars $ *135.00*

Value received and charge the same to the account of

To *A.B. Curtis* *D.E. Foster*

Accepted 19*22*
Date *Jan. 17,*
Payable at *Seventh National Bank*
Signature *A.B. Curtis*

Form 1. Bill of Exchange Drawn at 60 Days

A specimen bill of exchange is given in Form 1. The three parties to this instrument are: D. E. Foster, the drawer; A. B. Curtis, the drawee; Seventh National Bank, the payee.

In the specimen given omission of the last clause, "Value received and charge the same to the account of," would have no legal effect on the instrument, at least in those states where the Uniform Negotiable Instruments Law is in force.

Checks are merely a special class of bills of exchange. The term "draft," while having no fixed legal or commercial significance, is generally used synonymously with "bill of exchange." Discussion of documentary bills, sight bills, and time bills, bills under a bank credit, sight bills drawn on a foreign country, and various other types of drafts will be taken up shortly.

3. **Parties to a Bill of Exchange.**—First, may be considered briefly the legal relations of the three parties to a bill of exchange: the drawer, the drawee, and the payee. The drawer, or the party who makes out the order, directs the drawee to pay a specified sum of money. However, the mere written order of the drawer does not make the bill binding upon the drawee, even if the latter owes the drawer the sum of money called for in the instrument. The drawee does not become legally bound to the holder or payee until he has taken formal action to adopt the bill as his own obligation, which act is known as the "acceptance." According to the Uniform Negotiable Instruments Law, acceptance consists in the drawee's giving his written assent to the order of the drawer. This is accomplished ordinarily by writing or stamping the word "Accepted" with the date and his signature (generally written across the face of the bill on the left-hand end of the paper).

The word "acceptance" is used in commercial practice to designate three different things: (1) the act of the drawee in assuming the obligation contained in the instrument by giving his written assent to the order of the drawer; (2) the written words added to the bill; and (3) the bill itself after acceptance. The word "acceptance" is the most commonly used term for an accepted bill. In the specimen of a 60 days' bill already shown (Form 1) A. B. Curtis is the acceptor and the bill is known as A. B. Curtis' acceptance.

The payee is the person (individual, bank, firm, or corporation) to whom the drawer has ordered the payment of money to be made. This person may be either the original payee named in the instrument or some party to whom the original payee has transferred the bill. When the drawee makes payment on the bill to the payee, he discharges his debt to the drawer by the sum he has so paid. It is evident that he cancels his obligation, not by direct payment to his original creditor but by a payment to a third party named in the original creditor's written order.

In the specimen 60 days' sight bill, the clause, "Pay to the

order of the Seventh National Bank," has the same legal significance as "Pay to the Seventh National Bank or order." When a drawer makes out a bill payable to a bank it is customary for the bank either to buy the bill for a sum of present cash somewhat less than the face value of the instrument, or to receive it "for collection."

A bill of exchange may be drawn to the order of the drawer instead of a third person, payable to "myself" or "ourselves." This is a convenient form if at the time the instrument is drawn it is not certain to whom it is to be sold or transferred. To become negotiable it must be indorsed by the drawer, who can make it payable to anyone he wishes.

4. **Classes of Bills.**—Bills of exchange may be classified in three different ways:

1. As to their maturity.
2. As to whether or not they bear accompanying documents to serve as collateral security.
3. As to their uses.

Bills drawn at sight or on demand are payable immediately upon presentation to the drawee and are known as "sight" bills or "demand" bills. When bills are so drawn it is evident that there is no occasion for acceptance by the drawee, for the reason that if the drawee is willing to treat a sight bill as his obligation it is his duty to make payment at once. By payment he takes immediate possession of it and consequently there is no purpose served in writing "Accepted" upon it. There are one or two exceptions to this statement. The certification of a check by a drawee bank constitutes an acceptance of a demand draft and thus gives the holder of it a special security; and sight sterling drafts drawn on British importers and payable at a bank are first presented to drawees for acceptance.

Time bills may be drawn payable a specified number of days

after date or after sight or demand. In the latter case the time of acceptance is the date of sight or demand, from which the date of maturity is determined, and therefore immediate presentment for acceptance is necessary in order to insure the maturity of the instrument at as early a date as possible. Bills that are drawn payable at 30 days and under are called "short" bills, while those that run for a longer period are known as "long" bills.

With respect to the second classification, bills bearing accompanying documents to serve as collateral security are known as "documentary" bills, while those with no documents attached are called "clean" bills. Such documents include bills of lading, insurance policies or certificates, and commercial invoices. In the case of foreign drafts they may also include consular invoices, certificates of origin, certificates of inspection, and similar papers, according to the character and destination of the shipment.

5. The Uses of Bills of Exchange—Commercial.—Finally with reference to their uses, bills of exchange may be drawn to make immediate transference of bank funds from one person to another or to withdraw such funds, as in the use of a check; to facilitate the purchase of some commodity either by a bank acceptance when the bank is acceptor or by a trade acceptance when the debtor is the acceptor; to enable banks to raise funds by issuing "finance" bills; or to provide a means whereby a creditor can bring pressure upon a slow debtor to discharge his obligations.

The ordinary trade acceptance (Form 2) is created when, for example, the seller of merchandise draws a draft on the purchaser for the amount of the invoice and the purchaser accepts the draft. The purchaser, however, may make arrangements with his bank whereby the bill is drawn on the bank and is accepted by it for his account instead of by the purchaser himself. When accepted, such a bill becomes a bank acceptance (Form 3). The Federal Reserve Board has defined a bank acceptance as "a

draft or bill of exchange of which the acceptor is a bank or trust company, or a firm, person, company or corporation engaged in the business of granting bankers' acceptance credits."

Bank acceptances are used to a large extent in financing foreign trade and domestic transactions involving not only the

TRADE ACCEPTANCE

No. *569* Boston, Mass., *September 25, 1921* *$14,150.63*

Ninety days... after *sight* pay to order of *...Ourselves Fourteen thousand one hundred fifty and 63/100...* Dollars.

The obligation of the acceptor hereof arises out of the purchase of goods from the drawer.

To *R. A. Powers & Company*
Boston, Mass.

H. C. Jackson

Form 2. Trade Acceptance

more important staple commodities but also many other kinds of merchandise, such as automobile tires of special make. Bank acceptances offer a means of investment in which the credit risk

No. *130* *Yokohama, Japan, January 10, 1921*

Ninety days... after *sight* pay to the order of *...Ourselves Eighty-five thousand and two hundred...* Dollars..... *$85,200.00*

Drawn under *...Eighth National Bank Letter of Credit #36587 dated December 16, 1919*

Value received and charge the same to the account of

To *Eighth National Bank*
Boston, Mass.

O. Y. Kioto & Company

Form 3. Bank Acceptance

is practically eliminated, for the reason that direct responsibility for their payment rests on banking institutions whose credit is generally well known. For a long period acceptances have occupied a very important position in the foreign commerce of all

countries, including the United States. However, in the domestic commerce of the United States acceptances during the past half-century have not played any large part, as they have in Europe. Under the administration of the federal reserve system an effort is being made to give them a wider use.

6. Finance Bill.—The term "finance bill" is comparatively recent and designates long drafts drawn by bankers or stock exchange houses upon foreign banking or accepting houses for the purpose of raising funds in the country in which they are drawn. The effect of drawing finance bills is to utilize the foreign money market in financing some domestic undertaking. For example, suppose that the Atlas National Bank of New York has arranged with a London bank, by pledging securities at an acceptable New York depository (although the credit may have been extended without collateral requirements) for the drawing of a 90 days' sight bill on London. The New York bank is now in a position either to sell in the local market a 90 days' sight bill for the face of the credit or to forward the 90 days' sight bill to London with instructions that the draft be discounted and the proceeds be placed to its credit. Against this credit the New York bank may sell a demand draft. Which of the two plans the New York bank will follow depends upon the exchange rates on London existing at that time. In either case, however, neither the New York bank nor its London correspondent will have to put up any funds at the start. The London discount market provides the funds until the maturity of the draft, when the London correspondent looks to the New York bank for the necessary cover to meet the draft plus a small commission.

Finance bills are commonly drawn for three purposes: (1) to take advantage of the situation when interest rates are higher at home than abroad; (2) to anticipate an expected fall in foreign exchange rates; or (3) to raise funds regardless of interest or exchange rates.

7. Dunning Medium.—By no means uncommon in domestic transactions is the use of a draft for dunning a slow debtor who persistently refuses payment of an overdue account. The creditor by drawing a bill upon the debtor forces the latter either to pay or to disclose his refusal to some local bank to which the draft has been given for collection and with which the debtor may very likely wish to maintain his credit standing.

8. Checks.—A check is a written order for money, payable on demand, and drawn on a bank by a depositor, its cashier, or another bank. It does not have to be in any prescribed form, though in modern practice there is a uniform style. A common type is shown in Form 4. The drawer, or maker, is D. E. Fisher;

No. *49* Boston, *April 5*, 1922

HUB NATIONAL BANK

Pay to the order of ...*A. B. Curtis*..... 4\frac{81}{100}$...

Four $\frac{81}{100}$.....Dollars

D. E. Fisher

Form 4. Bank Check

the drawee is the Hub National Bank; the payee is A. B. Curtis. The bank or drawee will not honor or make payment on this check, except at its peril, until the check has been indorsed by the payee.

During the latter part of the seventeenth century merchants in England frequently deposited their money for safe-keeping with goldsmiths who had special facilities for taking care of valuables. It then became a practice for merchants to issue orders upon the goldsmiths when desiring to make payment; and the issue of these demands or orders marks the origin of the check system in England. One of these old checks drawn on a goldsmith, issued in 1675, reads as follows:

Mr. Thomas ffowles.

I desire to pay unto Mr. Samuell Howard or order upon receipt hereof the sume of nine pounds thirteene shillings and sixe pence and place it to the account of

Yr servant,
Edmond Warcupp

14 Augt., 1675
£9 = 13 = 6

For Mr. Thomas ffowles, Gouldsmith, at his shop betweene the two Temple gates, Fleetestreete.

On the back:

Recd in full of this bill the sume of nine pounds thirteen shillings sixpence.
Saml. Howard

Private bankers extended the practice until by 1780 it became general. London banks other than the Bank of England then began to discontinue their note issue. Instead of receiving a roll of notes the bank's customer obtained a book of order forms payable to bearer on demand and the bank undertook to honor such orders so long as it had assets of the drawer on hand. These order forms were issued payable to bearer and on demand in imitation of the notes which they were intended to replace. Just as the promissory notes bore registered serial numbers for ready verification, when the note was presented for payment, so these books of forms were similarly numbered. The practice of placing serial numbers upon these instruments as a check or means of identification is the explanation offered by some writers as to the derivation of the modern word "check."[1]

9. Drawing of Checks.—In writing a check good practice demands that it be dated, but this is not legally necessary; its validity and negotiability are not affected by the fact that it bears no date. If the instrument is not dated the holder has

[1] F. Tillyard, Banking and Negotiable Instruments, p. 3.

prima facie authority to fill in the date. It can be dated on a Sunday, as it is not in itself a contract. The date is usually that of its issuance, although legally it may be dated back or dated ahead. However, a check is not payable before its date. Checks are frequently postdated, especially by those whose deposit is insufficient to pay the check at the time of its delivery. Postdated checks of this kind have often been held to be valid by the courts, provided the postdating is not done for a fraudulent purpose.[2]

To be negotiable, checks must be made payable "to bearer" or "to the order of." In drawing a check to oneself it is better practice to make it payable to the order of "cash" than to make it payable to "bearer." In either case it is the custom of banks to insist that the check be indorsed by the payee but not by the maker. It is probable, however, that the bank does not have the legal right to insist upon indorsement, provided the person presenting the check is satisfactorily identified.

> Where the sum payable is expressed in words and also in figures, and there is discrepancy between the two, the sum denoted by the words is the sum payable; but if the words are ambiguous or uncertain, reference may be had to the figures to fix the amount.[3]

10. Presentation of Checks.—A check should be promptly presented. If it is not, a drawer may be discharged from liability to the extent of the loss caused by the delay. If, for example, the bank failed after there had been opportunity for presentation of the check, the payee would lose and could not recover from the drawer. A local check should be presented before the close of banking hours on the next business day following the date of issue. In order to charge the drawer of a check with liability, the check must be presented for payment within a reasonable

[2] J. E. Brady, The Law of Bank Checks, p. 23.
[3] Uniform Negotiable Instruments Law.

time after its issue, and in determining what is a reasonable time there must be taken into account the nature of the instrument, the usage of trade or business, and the facts of the particular case. If the check bears a date considerably previous to the time of presentation it is known as a "stale" check and probably will be carefully scrutinized. How long before a check is considered stale is not a definite and fixed matter. A check a month old has been decided not to be stale, but one 5 months old has been so treated. The teller must decide this question after a consideration of all the facts.

> An indirect routing of a check is liable to result in a loss to the owner thereof. This is illustrated by a case which arose in Alabama. A check drawn on a bank located at Greenville, Alabama, was received by the payee in Philadelphia on December 12 after banking hours and deposited the next day in a local bank for collection. This bank, instead of sending the check directly to a person or bank at the place where the drawee bank was located, which would have made it possible to present the check on or before December 17, sent the check to a bank in South Carolina, which forwarded it to another bank in Montgomery, Alabama, by which it was sent to a person in Greenville, Alabama, by whom it was presented to the drawee on December 10, one day after the drawee had failed. There was no proof to show that the manner of collection adopted by the Philadelphia bank was based upon custom, or any previous dealings between the parties. In an action by the payee of the check against the drawer, to recover the price of the goods for which the check was given, judgment was given for the defendant, because of the undue delay in presentment.[4]

11. **Responsibility of Drawee Bank.**—The drawer of the check is responsible for carelessness in making the check. Legally it may be written with pencil, but this leads to errors and fraud. In writing the sum it is customary to begin at the left-hand margin in order to lessen opportunity for raising the amount. A

[4] J. E. Brady, The Law of Bank Checks, p. 102.

bank in paying a forged check is responsible, for it is assumed to be familiar with signatures of depositors. If a check which has been properly made out is raised and then cashed, the loss may fall upon the bank. If, however, the drawer of a check leaves a blank which admits of opportunity for alteration, he may be held negligent.

A holder (payee) of a check has no legal rights upon the bank upon which it is drawn, although the drawer has funds on deposit. The drawer can claim payment, but not the payee. If the check is not paid, the payee can sue the drawer.[5] Although the payee cannot compel the bank to honor the check, the bank is under obligation to the depositor to protect his reputation. A refusal to pay a check properly drawn and presented, if there be sufficient funds on deposit, would injure the depositor's credit and give cause for action against the bank. A bank, however, is under no obligation to make a partial payment up to the amount which may be on deposit, when the check is in excess.

12. **Certified Check.**—A certified check is a check which has written upon it an acknowledgment by the bank that the drawer of the check has sufficient funds on deposit to pay it. It is practically equivalent to a bank note so far as the issuing bank is concerned. The acknowledgment is made by writing across the face of the check the word "Good," "Accepted," or "Certified," and the name of the bank official assigned by the bank for this duty. Certified checks are commonly used by persons when their ordinary personal checks would not be readily accepted. In most banks the cashier generally certifies checks. Some banks prefer not to certify checks but to take up the check and issue a cashier's check against it, inasmuch as there is less opportunity for a banker's check to be subsequently tampered with if it should fall into the hands of a fraudulent person.

[5] In a few states the payee may bring action against the bank on the theory that drawing a check is an assignment to a payee.

Certification constitutes a contract between the holder and the bank; the amount of the check is set apart out of the drawer's deposit for the purpose of paying the check. In legal contemplation and effect a certified check is thus a certificate of deposit issued by the certifying bank.

13. **Cashier's Check.**—A cashier's check is a check drawn by a bank against itself, and usually signed by its cashier, payable when presented at the bank drawing the same. Such a check is commonly used by a person whose own check would not be so readily accepted as the check of some known bank. A cashier's check may be used by a person not having a bank account and therefore unable to draw a check of his own. A slight charge may be made for the accommodation.

14. **Stop Payment of Check.**—A notice to stop payment of a check, to be effective, must, of course, be received by the bank before the check has been presented or certified. It is not unusual for a bank to require that stop orders be written. A telegram directing that the payment of a check be stopped may be acted upon by a bank at least to the extent of delaying the payment until further inquiry can be made. However, a bank is not legally bound to accept an unauthenticated telegram as a requirement for refusing payment.

15. **Promissory Notes.**—Whereas a bill of exchange is an order, a promissory note is a promise to pay money on the part of the one who writes it. A promissory note is an unconditional promise in writing made by one person to another, signed by the maker, engaging to pay on demand, or at a fixed or determinable future time a sum certain in money to order or to bearer.

To the note as shown in Form 5, there may or may not be added an interest clause such as "With interest at 6 per cent per annum." Occasionally promissory notes bear an interest clause

in which the rate is not specified, the rate implied being the legal rate of interest in the state of the promisor. In the absence of an

$750.00 Boston, Mass., July 10, 1921

Sixty days after date, I promise to pay to the order of A. B. Curtis $750

Value received D. E. Foster

Form 5. Promissory Note

interest clause the full sum due upon the above note at its maturity is $750. When a note is drawn to the maker's own order it is not complete until indorsed by him.

If A. B. Curtis wishes to sell this note before maturity he indorses it by writing his name across the back. This act transfers the right to receive payment, it also adds the implied promise that the indorser will pay the note if the maker refuses. If the indorsement is made in blank, that is, by writing simply the name "without" "pay to the order of", the note can be transferred from one person to another without further indorsement. Each additional indorsement, however, adds to the security. If the holder of a note wishes to transfer or assign it with distinct disavowal of responsibility, and this is satisfactory to the person receiving it, he may add to his indorsement the words, "Without recourse."

The order of liability on a promissory note is: (1) drawer or maker, (2) first indorser, (3) second indorser, etc.[6] An indorser can collect, if possible, from those who indorsed above him, but not from those below. The holder of the note can proceed against any one or all of the indorsers.

16. **Single- and Double-Name Paper.**— If a note bears simply the name of the maker for its security it is called "single-name"

[6] With respect to one another, indorsers are liable prima facie in the order in which they indorse, but evidence is admissible to show that they may be in a reverse order.

paper; if indorsed by another it is "two-name" paper. A manufacturer, for example, wishing to obtain the use of $5,000 may give his own note to a bank and on that personal security borrow funds. The note thus given is single-name paper. Or he might take the note of a jobber to whom he had sold goods for $5,000, indorse it, and obtain funds from a bank. This note then becomes two-name paper. A considerable portion of the paper discounted by banks in the United States is double-name paper, and some hold that this paper is safest, partly because it bears two names, and partly because it arises, presumably, from an actual commercial transaction in which there has been a sale of goods and consequently clear evidence of value behind the note which ultimately will liquidate the obligation. On the other hand the note of a strong business house reputed to be solvent is often as acceptable to a bank, even if there be no immediate evidence in the making of the note that a particular sale has been made.

The specimen note shown in Form 5 might have originated in the sale of $750 worth of goods by Curtis to Foster on 60 days' time. The chief advantage to Curtis of the note, as distinguished from a book account charge against Foster, is its superiority as a means of obtaining cash immediately. Curtis may sell the note to his bank for perhaps $742.50 ($750 discounted at 6 per cent), or he may pledge it for a direct loan against his own note.

A second and more important source of short-time promissory notes is the straight loan, by which is meant a direct advance of money, or the right to draw money, based upon a promise that the sum will be returned with interest in the future. A high percentage of the direct short-term loans in this country are made by banks to their clients in all lines of business. Discussion of the subject of loans and incidental points is reserved for another chapter.

17. Accommodation Paper.—Accommodation paper is a bill of exchange or a promissory note to which the acceptor, maker,

drawer, or indorser has signed his name, without receiving value, for the purpose of obliging by the loan of his credit some other person who is to pay the note or bill at maturity. Any individual who lends his name to commercial paper is, of course, held for its payment, no matter what may be his intention in the beginning or his private understanding with the accommodated person. Accommodation paper is looked upon by banks with more or less suspicion. There is no value received and it is not self-liquidating in the sense of being based on a merchandise transaction.

18. **Money-Orders.**—Money-orders are issued by post-offices, express companies, telegraph companies, and banks, and are used for remitting funds of small amounts. A postal money-order is a government order issued at one office and payable at another. The maximum amount for which a single postal order may be issued in the United States is $100. When a larger sum is to be sent, additional orders must be obtained. International money-orders make it possible for sums, usually not exceeding $100, to be remitted cheaply to the principal countries of the world. The fees charged by the different issuing agencies are substantially the same. For postal money-orders the rates range from 3 cents, when the amount is $2.50 or less, to 30 cents for $100.

A bank money-order is an order for the payment of money issued by a bank and payable at certain other designated banks in different parts of the country. The fees charged for bank money-orders are approximately the same as for postal and express money-orders. Bankers' limited checks are used commonly for remitting small sums of money to any part of the world. Indicated on the face are certain fixed limits in various currencies. For amounts in excess of the sums stated it is cheaper and more convenient to purchase drafts. The bank postal remittance system is considered in a subsequent section.

Telegraphic money-orders are telegrams of telegraph or ex-

press companies ordering the payment of money at some other designated place. Remittance of funds by telegraph is common in foreign trade, and foreign exchange markets have daily quotations giving the telegraphic or cable transfer rates on the principal commercial centers of the world.

The remittance of funds by money-order is mostly a matter of bookkeeping on the part of the agency issuing the order. No money is transferred from one place to another; a certain sum is received at one place and an equivalent sum paid at another place.

19. Bank Postal Remittance.—The term "bank postal remittance" refers to a special class of transactions utilized chiefly to meet the requirements of European immigrants to the United States, who wish to send money to the old country, and to facilitate the transfer of funds to places where banking facilities are somewhat limited. The class of persons to whom immigrants usually send money would experience inconvenience in getting an ordinary banker's check or draft cashed.

The postal remittance system may be compared to the money-order system in this country. The American bank, in return for dollars received from the remitter, notifies its foreign correspondent bank to pay the equivalent in the local currency, as determined by the rate of exchange prevailing when the order is taken, to a specified person in that country. The foreign bank then either buys a postal money-order or puts the actual currency in an envelope and sends it to the beneficiary through the mails. The foreign bank charges the remitting bank's account and usually deducts its own charges, if any, from the face amount of the remittance.

Banks in this country which do not carry accounts abroad invariably sell foreign checks and postal remittances under the protection of the large New York banks which maintain connections throughout the world. When the purchaser pays for the

postal remittance he is given a receipt to be retained by himself and also a memorandum, containing explanations in about a dozen languages, which he is to mail to the person who is to receive the money. This memorandum is in no way a draft or order but is simply a statement of advice, the order to pay having been forwarded by the bank direct to its correspondent abroad.

20. **Circular Notes.**—Circular notes (often written in French) are sometimes issued by banks and tourist agencies. They are similar to travelers' checks in form and use, and are issued for round sums of a given currency (dollars, francs, pounds sterling, etc.). They are payable at the amount for which they are issued, without deduction in the countries which use that currency. In places where the local money differs from that specified on the circular notes, the equivalent of the amount is paid at the exchange rate when cashed. At present (1922) there is very little difference between a circular note and a travelers' check, because banks, on account of the unsettled conditions of foreign exchanges, have generally ceased the practice of issuing travelers' checks payable at fixed rates in foreign currencies.

21. **Travelers' Checks.**—A travelers' check (Form 6) is in effect a circular note made out by a bank, express company, or tourist agency to the order of the traveler as payee. For convenience they are made out in small sums and are available not only for foreign but for domestic travel. The checks are for relatively small amounts and are generally accepted by railroad companies, large stores, tourist agencies, and hotels without imposing on the traveler the burden of cashing them at a bank. They are issued in series or packages in varied denominations, generally from $10 to $200, each bearing the signature of the bearer written in at the time of purchase and each being countersigned by the bearer when presented for payment. Until recently on each check there was indicated opposite its value in United

$20 **TRAVELERS' CHECK** $20

Holder's Signature No. 65328

_____ _____ 19____

COLONIAL TRUST COMPANY OF NEW YORK
Broadway, New York
or its Paying Agents

Will pay to the order of _____

In United States and Canada
TWENTY DOLLARS—$20.00

In other Countries
at Bankers Buying Rate of Exchange
for Checks on New York

When signed below by the person whose signature appears above

COLONIAL TRUST COMPANY OF NEW YORK
By ...*Charles T. Babson*...
President

_____
The holder must sign here in presence of paying officer

Form 6. Travelers' Check

States money the cash equivalent in English, French, Italian, German, or other foreign money. Thus if the traveler were in Italy and had a $20 check he would know without asking that it was worth 102 lire and 50 centesimos. At present (1922) American banks are issuing travelers' checks payable not in fixed equivalents of foreign currency but at the rate at the time of encashment for sight drafts on New York. While the original plan for making payments was satisfactory under normal conditions, the disorganization of the foreign exchanges brought about by the war has rendered it in most cases unsuitable for the needs of the traveler today.

Travelers' checks generally offer a much more satisfactory means of carrying funds than do drafts. The latter must be cashed in a single lump sum which may be somewhat larger than the traveler wishes to carry on his person, and which may be a decided disadvantage if a little later a journey is made into another country where a different currency is in use. Under the standard terms in the United States these checks are sold for their face value in dollars plus a commission of 3/4 per cent, or 75 cents per $100 worth, with a minimum commission of 75 cents.

22. Certificates of Deposit.—By depositing a sum of money in a bank a person may, if he wishes, receive a certificate of deposit instead of a credit to a regular checking account. A certificate of deposit is both a receipt and a promissory note and may be drawn payable to any person whom the depositor may name. The certificate may be either negotiable or non-negotiable and may be made payable on demand or after a definite time. The demand certificate is used principally for the purpose of guaranteeing payment to a creditor and also as an old method followed by some banks in transferring cash to distant points. In many respects a demand certificate is similar to a certified check or a bank draft.

The time certificate usually yields a fair rate of interest and

offers the depositor a return on any temporary idle money that he is willing to turn over to the bank. For example, suppose Mr. A has $10,500 to lend for 6 months. He can buy commercial paper, a corporate short-term note, etc., of that maturity. But he cannot judge the soundness of these investments. He goes, therefore, to a bank (any large bank) and buys (for that is what the transaction virtually amounts to) a 6 months' certificate (Form 7) yielding, to be sure, a lower rate than the investments alluded to above would. The bank prefers to issue the certificate

$10,500 Boston, Mass., ...*Mar. 15*, 1922 No. *1672*

EIGHTH NATIONAL BANK

Charles T. Adams.... has deposited ....*ten thousand and five*.... *hundred*..... Dollars

Payable to the order of .....*himself*.....

on the return of this certificate properly indorsed .....*six*.....

months after date, with interest at .....*4*..... per cent per annum.

George F. Tompkins
Cashier.

Form 7. Certificate of Deposit

rather than open a time deposit account, simply because it involves less bookkeeping and other clerical work. Mr. A is to leave the funds with the bank only for 6 months and the bank therefore does not consider it worth while to enter his name on the deposit ledger and go through the formalities incident to the opening of a new account.

23. Commercial Paper.—"Commercial paper" is a term employed more or less loosely; in its broadest sense it includes all forms of credit instruments that arise from business operations. As generally used in the money market it may be defined as promissory notes issued by business concerns for the purpose of

carrying on commerce and sold by the makers in the open market. This, it will be noted, rather rigidly limits the character of the paper included in the category to strictly direct obligations of the makers. Bankers' acceptances are definitely excluded, and trade acceptances are often listed either separately or as bills receivable. Commercial paper is sometimes called "purchased" paper as distinguished from discount paper of the bank's own customers.

Commercial paper, as defined by the Federal Reserve Board regulations, is given a much broader interpretation and includes notes, drafts, and bills of exchange, which arise from dealings in merchandise as distinguished from loans made for the purpose of trading in stocks and bonds. Commercial paper, eligible for rediscount at a federal reserve bank, must be a note, draft, or bill of exchange the proceeds of which have been used or are to be used in producing, purchasing, carrying, or marketing goods (goods, wares, merchandise, or agricultural products, including livestock) in one or more of the steps of the process of production, manufacture, or distribution. It must not be a note, draft, or bill of exchange the proceeds of which have been used or are to be used for permanent or fixed investments of any kind, such as land, buildings, or machinery, or for investments of a purely speculative character. Notes or bills with the proceeds of which bonds and notes of the United States have been purchased are eligible.

The term is also applied without any qualifying adjective to promissory notes and bills. Paper or commercial paper is further distinguished as agricultural paper, arising from the sale of agricultural products, and mill paper, which in New England refers to promissory notes and bills of textile mills. Similarly in the Northwest, notes and bills secured by grain held in elevators are known as "elevator" paper. Such paper is also called "trade" paper.

24. Commodity Paper.—Commodity paper, within the meaning of the Federal Reserve Act, is restricted to notes, drafts, bills

of exchange, or trade acceptances accompanied and secured by shipping documents or by a warehouse, terminal, or other similar receipt covering approved and readily marketable, non-perishable staples properly insured. "Staples" include manufactured goods as well as raw materials, provided the goods are non-perishable and have a wide market. This is held to include cotton yarns and flour. Commodity paper comprises not only paper originating with the producer, but also paper of merchants and others when the commodity is not being used for speculative or purely investment purposes. Potatoes, properly graded, packed, and stored in weather-proof and responsible warehouses, as evidenced by its receipt, constitute a non-perishable staple.

25. **Volume of Credit Instruments.**—It is impossible to determine the total amount of credit instruments outstanding at any one time. We know the amount of coin which has been minted and the amount of government and bank paper money which has been issued, but only estimates with a probable wide margin of error can be made of the outstanding volume of checks, promissory notes, bills of exchange, and the other miscellaneous variety of credit instruments which society has devised. Several investigations, however, have been made to measure the proportionate use of credit instruments in exchange transactions in the United States, based on an analysis of the receipts of banking institutions. For example, an analysis of the receipts of 152 banks for six consecutive days in 1871 showed that 88 per cent was in checks, drafts, and commercial bills. Ten years later, in 1881, a similar inquiry based on the receipts of over 2,000 banks for a single day gave the following results:

	Per Cent
Checks, drafts, and bills	91.85
Clearing-house certificates	2.24
Paper money	4.36
Gold coin	1.38
Silver coin	.17
	100.00

The returns varied for different parts of the country. In New York City the proportion of credit instruments ran as high as 98.7 per cent, while in some of the states it was as low as 65 per cent. Subsequent investigations gave substantially the same results. The last and most exhaustive inquiry was made in 1909.[7] It was then concluded "that a large proportion of the business of the country, even the retail trade, is done by means of credit instruments. While it is probably true that wage-earners, as a class, do not commonly use checks, it is also true that a great many do. Moreover, the use of checks is common among people who derive their income from other sources, even though it be not larger than the well-paid laborer. We are justified, therefore, in concluding that 50 or 60 per cent of the retail trade of the country is settled in this way."[8] Over 90 per cent of the wholesale trade of the country is done with checks and other credit instruments; of weekly pay-rolls reported by the banks 70 per cent was in checks; and finally "we may therefore safely accept an average of 80 to 85 per cent as the probable percentage of business of this country done by check."

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[7] Made by the Comptroller of the Currency for the National Monetary Commission, under the editorial supervision of David Kinley.

[8] The Use of Credit Instruments in Payments in the United States, by David Kinley (Report of National Monetary Commission), p. 199.

CHAPTER IV

COMMERCIAL CREDIT DOCUMENTS

1. Bills of Lading.—By "commercial credit documents" is here meant bills of lading, warehouse receipts, trust receipts, and numerous other forms which serve principally as evidences of title to or rights in goods. It is the purpose of this chapter to point out the salient features of the more important of these documents.

A bill of lading is a document containing a written acknowledgment by a railroad, steamship company, or other carrier, specifying the receipt of goods for transportation. Besides being the final receipt from the carrier, the bill of lading is, in effect, a contract between the carrier and the shipper. It is customarily drawn up by the shipper on forms which the carrier supplies and which are signed by the latter after the receipt of the goods in the case of a railroad company, or after delivery of the dock receipt and the shipper's manifest in the case of a shipment abroad. Bills of lading are the most important of the shipping papers and are used extensively as collateral in connection with drafts and bills of exchange. The only thing that makes a bill of lading valuable to buy or to use as collateral is the fact that the carrier will hold the goods until the bill itself is surrendered, except possibly in the case of a "straight" bill of lading.

2. Straight and Order Bills of Lading.—A straight bill of lading states that the merchandise is consigned or destined to a specified person. It is non-negotiable and therefore is not the proper form for use as collateral. An "order" bill of lading states that the merchandise is consigned or destined to the order of any person named in the bill, and is therefore negotiable. Such a

bill will make the merchandise deliverable to the order of the shipper himself, to the order of the buyer, or to the order of some bank which has agreed to finance the shipment through the purchase of the shipper's draft or through the issue of a commercial letter of credit. Bills of lading drawn to the seller's order are used most generally when a draft is to be attached. The seller indorses it in blank and then delivers it to his bank as security for the bill of exchange.

With practically no exceptions banks discounting drafts secured by bills of lading insist upon order bills of lading. When a draft is accompanied by a straight bill of lading the bank as a rule receives the item only for collection and does not credit the customer's account until funds have been received through the correspondent bank.

3. Ocean Bill of Lading.—Ocean bills of lading, unlike railroad bills, vary in phraseology, due in part to the business customs of the country under whose flag the vessel sails, and in part to the laws of the countries between which the steamer runs. Different bills of lading, for example (although issued by the same steamship company), are required for shipments to South America and those destined to England or France.

Particularly in foreign trade it is not customary for the ocean bill of lading to be drawn in the consignee's name (straight) unless special arrangements have been made with the shipper, or unless advance payment has been made or security furnished before the shipment. The plan for effecting financial settlements most commonly employed in foreign commerce involves drafts or bills of exchange, to which are attached such documents as the ocean bill of lading, the shipper's invoice, and marine insurance policies. The number of copies of the bill of lading required vary according to the nature of the transaction. They are usually issued in sets and some are made negotiable and others non-negotiable. Banks purchasing drafts require two or more nego'i-

able copies and insist upon possession of all other negotiable copies. Non-negotiable copies are necessary for the shipper, the carrier, and the consignee for filing, and by foreign consuls to comply with the provisions of the law.

4. Through Bills of Lading.—"Through" bills of lading, also called "export" bills of lading, are used where an exporter at an inland point wishes to bill his goods from point of shipment to the foreign point of delivery, port or interior. By a through bill the exporter avoids the necessity of obtaining a railroad bill of lading to cover the goods to the port of shipment, and then an ocean bill to the foreign port of destination. The export bill of lading, is, in effect, a triple contract embracing three things: (1) transportation by rail or water to port of shipment; (2) transportation by sea; (3) transportation from foreign port of entry to inland destination.

5. Transaction Illustrating Use of Bill of Lading.—In order to understand the use of a bill of lading as collateral in a domestic transaction let us suppose that Buyer and Company of Syracuse has purchased a bill of goods from Seller and Company of Boston, subject to a sight draft. Upon receipt of the goods the railroad company signs the bill of lading (Form 8) made out by Seller and Company. The bill of lading with the invoice (Form 9) is then attached to a draft (Form 10) drawn in favor either of Seller and Company or of its Boston bank and turned over to the latter. The Boston bank forwards the draft with the bill of lading to its correspondent in Syracuse, who presents the draft to Buyer and Company for payment. Upon payment of the draft Buyer and Company obtains the bill of lading and thus is in a position to secure the merchandise from the railroad company. As soon as the Boston bank has received notice that the draft has been paid, it advances the proceeds of the draft to Seller and Company, although the latter may possibly obtain immediate use of the

Uniform Bill of Lading Corrected to October 10, 1920

BOSTON & ALBANY RAILROAD

N. Y. C. R. R. CO., LESSEE

ORDER BILL OF LADING—ORIGINAL

Shippers No. 115

Agents No. 26

RECEIVED, subject to the classifications and tariffs in effect on the date of issue of this Original Bill of Lading,

at Boston, Mass. October 19, 1921

from Seller and Company the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and destined as indicated below, which said Company agrees to carry to its usual place of delivery at said destination, if on its road, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions, whether printed or written, herein contained (including conditions on back hereof) and which are agreed to by the shipper and accepted for himself and his assigns.

The surrender of this Original ORDER Bill of Lading properly indorsed shall be required before the delivery of the property. Inspection of property covered by this bill of lading will not be permitted unless provided by law or unless permission is indorsed on this original bill of lading or given in writing by the shipper.

The Rate of Freight from ..... *to* ..... *is in Cents Per 100 Lbs.*

If Times 1st	If 1st Class	If 2d Class	If Rule 34	If 3d Class	If Rule 36	If Rule 33	If 4th Class	If 5th Class	If 6th Class	If Class A	If Class B	If Class C	If Class D	If Class E	If Special per	If Special per

(Mail Address—Not for purpose of Delivery.)

Consigned to ORDER OF Seller and Company

Destination, Syracuse, State of New York County of

Notify Buyer and Company, 958 Harrison St.

At Syracuse State of New York County of

Route, B. & A.; N.Y.C. Car Initial Car No.

NO. PACKAGES	DESCRIPTION OF ARTICLES AND SPECIAL MARKS	WEIGHT (Subject to Correction)	CLASS OR RATE	CHECK COLUMN
One	(1) Case Leather, Mahogany Sides	850 lbs.	2	✓
Two	(2) Bundles Leather, Mahogany Sides	160 lbs.	2	✓
	Marks S & Co.			
	Syracuse			

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $..... to apply in prepayment of the charges on the property described hereon.

Agent or Cashier.

Per .....

(The signature here acknowledges only the amount prepaid).

Charges Advanced:

$.....

Seller and Company Shipper W. H. Wareham Agent

Per H.V.S. Per

(This Bill of Lading is to be signed by the shipper and agent of the carrier issuing same.)

Form 8. Railroad Bill of Lading

The railroad bill of lading illustrated above is made out by Seller and Company in triplicate and the different copies are referred to as: (1) original bill of lading, (2) shipping order, and (3) memorandum bill of lading. All copies of the bill of lading are signed by the railroad agent upon receipt of the goods. The original bill of lading, to which are attached the sight draft and invoice, goes to Seller and Company's Boston bank. The shipping order is retained by the railroad company, and the memorandum bill of lading is kept by Seller and Company for filing purposes. Seller and Company may, if it wishes, make out extra copies of the memorandum bill of lading.

proceeds of the bill upon depositing it with the bank. The Boston bank would be safe in advancing funds to its customer because it

CABLE ADDRESS "SELACO" A.B.C. (5TH EDITION) AND LIEBER'S CODES

SELLER AND COMPANY

Leather Manufacturers

NEW YORK OFFICE 184 GOLD ST.

1204 LINCOLN STREET
BOSTON, MASS. U.S.A. Jan. 31/1922

SOLD TO Buyer and Company
958 Harrison St., Syracuse, N.Y.

TERMS 5% Cash Dis't SHIPPED VIA B.& A. N. Y. C. One CASES Two BUNDLES

DOZENS	SIDES	GRADE	KIND	FEET	PRICE	AMOUNT
			NUGLOS			
20	240	A.L.M.	Patent Sides	3825	50¢	$1912.50
				Less 5% Cash Trade Discount		95.63
						$1816.87

Sight Draft for above amount made upon you through The Atlas National Bank of Boston

Form 9. Shipper's Invoice

This invoice and the draft are attached to the original bill of lading and are turned over by Seller and Company to its Boston bank

retains title to the bill of lading and, therefore, the goods, until its Syracuse correspondent secures payment from Buyer and Company. The funds will probably be forwarded from Syracuse in the form of a Boston or New York bank draft. If Buyer and Company refuses payment the Boston bank can recover from Seller and Company.

6. Negotiability of Bills of Lading.—Although the bulk of the cotton, grain, and other commodities moving to market are financed on the basis of bills of lading attached to drafts, the practice in the past has been subject to grave abuses and fraudulent methods. In order to provide protection against drafts with bogus bills of lading and other easy means of obtaining money

fraudulently, Congress passed a Bill of Lading Act which became effective January 1, 1917. The main features of this act are:

1. Provision for a uniform domestic bill of lading which is easily and safely negotiable.
2. The shifting of the burden of responsibility from the bank to the carrier.
3. Declaring that fraudulent practices in connection with such bills are misdemeanors and punishable by fine or imprisonment or both.

No Protest: Tear this off before Presenting

$1816.87 Boston, *Jan. 31, 1922*

.....*At Sight*.....Pay to

the order of .....*Atlas National Bank of Boston*.....

.....*Eighteen Hundred Sixteen*..... $\frac{87}{100}$ Dollars

Value received and charge the same to account of

To *Buyer and Company*
958 Harrison St., Syracuse, N. Y.

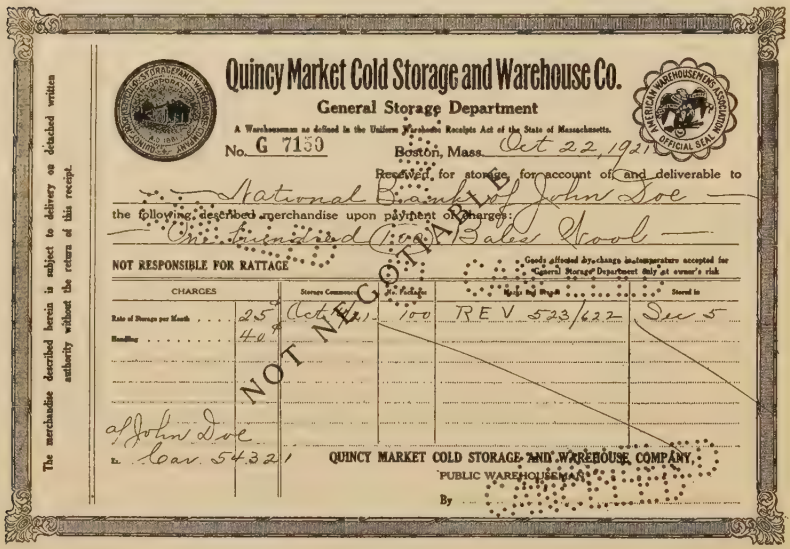
Seller and Company
H. C. Carter
Pres.

Form 10. Shipper's Draft

This draft and the invoice are attached to the original bill of lading and are turned over by Seller and Company to its Boston bank

Bills of lading do not possess full negotiability in the strict sense of the word. And, indeed, it will never be possible for them to meet the requirements of the true negotiable instrument, because one of these requirements is that the instrument must contain an unconditional promise or order to pay a certain sum of money. However, a bill of lading is negotiable in the sense that it is transferable by indorsement and delivery and that such indorsement and delivery transfer to the indorsee or holder rights to or property in the goods.

7. **Warehouse Receipts.**—In recent years there has been a rapid development in the use of the warehouse receipt (Form 11) as collateral. This is an evidence not only of the close relationship between the banker and the storage warehouseman but also



Quincy Market Cold Storage and Warehouse Co.

General Storage Department

A Warehouseman as defined in the Uniform Warehouse Receipts Act of the State of Massachusetts.

No. G 7150 Boston, Mass. Oct 22, 1921

Received for storage, for account of and deliverable to

National Bank of John Doe

the following described merchandise upon payment of charges:

One hundred Cases Salted Veal

NOT RESPONSIBLE FOR RATTAGE

Goods affected by change in temperature accepted for General Storage Department only at owner's risk

CHARGES	Storage Commenced	No. Packages	Weight and Mark	Stored in
Rate of Storage per Month 25	Oct 21	100	REV 523/622	Sec 5
Handling 40				

NOT NEGOTIABLE

a/c John Doe

Car 54321

QUINCY MARKET COLD STORAGE AND WAREHOUSE COMPANY,

PUBLIC WAREHOUSEMAN.

By .....

The merchandise described herein is subject to delivery on detached written authority without the return of this receipt.

Form 11. Warehouse Receipt

of the parts played by both in the distribution of raw products and manufactured goods. As the population and industries of our cities increase, the problems of handling seasonal accumulations of goods and of bringing them from the producer's to the consumer's market become greater and make the service of the storage warehouseman more indispensable than ever.

There is in effect, with a few minor variations, a uniform warehouse receipts act in nearly every state of the Union. The following statements concerning this law are summarized in part from a pamphlet published by the American Warehousemen's Association:[1]

[1] Warehouse Receipts as Collateral, pp. 3–6.

A warehouse receipt is an acknowledgment of the warehouseman that he has received for storage certain goods which will be delivered on demand, provided the terms of the receipt are complied with. The Uniform Warehouse Receipts Act specifies two distinct forms of warehouse receipt—negotiable and non-negotiable.

In order to be negotiable a receipt must state that the goods received will be delivered to: (1) the bearer, or (2) a specified person or on his order. A non-negotiable receipt states that the goods covered by it will be delivered to the depositor only, or only to a specified person named in the receipt.

The pamphlet of the American Warehousemen's Association further states:

> The two forms of receipts differ in actual use chiefly as to the manner in which right of possession of the goods covered by the receipts may pass from one party to another, and the manner in which delivery of the goods can be effected.
>
> A negotiable receipt may pass from hand to hand merely by indorsement in much the same manner as any other negotiable instrument. Right of possession of the goods covered by a negotiable receipt follows the ownership and possession of the receipt. Lawful delivery of goods covered by a negotiable warehouse receipt cannot be made without the surrender of the receipt properly endorsed. Care must be exercised by the holder of a negotiable receipt that it be not lost, misplaced or destroyed.
>
> The surrender of a non-negotiable warehouse receipt is not required by law. Delivery of goods covered by such a receipt, or transfer of the right to delivery on the books of the warehouseman, is accomplished through the written order of the party in whose name the goods are stored. Non-negotiable receipts must be so marked. Failure so to do may require the warehouseman to treat such receipts as negotiable.
>
> A banker may, with reasonable safety, accept as collateral a duly endorsed negotiable receipt issued by a reputable warehouseman, provided he is satisfied with the endorsements and is sure that the goods are as represented. Care should, of course, be exercised to see that storage charges and other liens are fully paid

through having receipted bills of the warehouseman filed with him monthly. In case the borrower desires to take delivery of a portion of the goods covered by a negotiable receipt, it is necessary to either present the receipt to the warehouseman in order that there may be noted upon it the release of the quantity delivered, or surrender the original receipt and obtain a new one for the goods remaining undelivered.

When money is to be loaned on goods in storage and the banker obtains a non-negotiable receipt in his own name, the goods are under his sole control. In such a case the warehouseman will not permit delivery, or even inspection, of the goods without the written authority of the banker. In case the borrower is involved in litigation, an attachment of the goods will not prevail as long as the receipt is in the name of the banker. The banker assumes no liability or diminution of security in the event of loss, misplacement or destruction of such a receipt, since the goods cannot be released without his written order. Partial deliveries can be made merely on the written order of the banker. Most of the warehousemen of the country issue non-negotiable receipts in exchange for negotiable receipts, or transfer goods covered by a non-negotiable receipt to another party, without making a charge for the additional non-negotiable receipt required.

For collateral use the American Warehousemen's Association recommends the non-negotiable warehouse receipt in the name of the banker as compared with the negotiable form.

In the East, and particularly in New England, the use of the non-negotiable form as collateral is increasing.

8. Commodity Paper.—Bills of exchange and promissory notes secured by warehouse receipts as collateral are called "commodity paper." In case of default of payment by the borrower the bank is empowered to take possession of the goods and sell them to satisfy the debt. If a borrower wishes to sell some of the produce covered by a warehouse receipt before the maturity of the loan, he is usually required to reduce his obligation by a corresponding amount or to substitute other receipts.

Some warehouse receipts guarantee grades, weights, and other essential qualities, although often stipulating certain variations. A charge is sometimes made for this guaranty; in cotton, for example, a customary fee is 1/16 of a cent per pound.

According to the rulings of the Federal Reserve Board no draft which is secured by a warehouse receipt is eligible for acceptance unless the goods covered by the receipt are being held in storage pending a reasonably immediate sale, shipment, or distribution. Any draft, therefore, which is drawn to carry goods for speculative purposes or for any indefinite period is not considered eligible for acceptance. Warehouse receipts offered as security for bills accepted by member banks of the federal reserve system must be issued by warehouses which are independent of the borrower.

9. Warehousing System in Louisiana.—The state of Louisiana has in recent years developed an excellent warehousing system which is designed to accomplish among other things the prevention of losses experienced in the past where the borrower controlled the warehouse. Under the administration of the Board of Commissions of the Port of New Orleans the produce covered by a warehouse receipt is deliverable only to the order of the depositor upon surrender of the receipt. These receipts are never issued to bearer, but the owner of the merchandise may indorse them, "Deliver to bearer." All grain stored in elevators or warehouses is graded and the receipts specify the quantity and grade. Cotton, sugar, rice, and other commodities are not graded and consequently the loaning bank in judging the statements of its customer as to grade must rely on its knowledge of his integrity and financial standing. When commodities have been placed in warehouses in the case of a loan, insurance must be provided for by the depositor and the policies turned over to the bank. The insurance policies are usually made to the order of the depositor and are then indorsed in blank. Frequently, however, insurance is negotiated through an open policy which is issued for a specified

amount and which covers the commodities while waiting shipment in warehouses, compresses, or on wharves, docks, levees, or elsewhere on land in the United States.

10. Trust Receipts.—Trust receipts (Form 12) are sometimes accepted by a bank as temporary collateral from responsible

TRUST RECEIPT

Documents for Warehousing

RECEIVED from THE COLONIAL TRUST COMPANY of NEW YORK Bill of Lading per ...*Prince Line*... dated ...*May 29, 1922*... for the following goods and merchandise, their property, marked and numbered as follows:

R & Co.
N. Y.

...*dry hides*...

imported under the terms of Letter of Credit No. ...*14672*..., issued by them for our account the said Bill of Lading to be used by us for the sole purpose of entering the above described property at the United States Custom House at the Port of .....*New York City*,.... and of storing the same in the name, and as the property, of the said THE COLONIAL TRUST COMPANY OF NEW YORK, and subject only to their order, we hereby agreeing to so store the said property and to hand the storage receipt for the same to the said THE COLONIAL TRUST COMPANY OF NEW YORK, when obtained.

We ALSO AGREE to fully insure said property against fire; the loss, if any, payable to said THE COLONIAL TRUST COMPANY OF NEW YORK, and to hand to them the policies of insurance thereon.

Dated ....*June 26*, 1922

(Signed) *Rand and Company*
Per *R. L. Rand*
Treasurer

$49,650

Form 12. Trust Receipt

This form of trust receipt is also used in connection with import letters of credit, and it is temporarily accepted against the surrender of shipping documents in order that the goods covered by such documents may be placed in warehouse, and pending the delivery of the warehouse receipt

customers in exchange for shipping documents or warehouse receipts. They are also used in connection with import and export letters of credit and loans. Trust receipts vary in terms and in form, depending on the nature of the transaction and the degree of risk the bank is willing to assume. For instance, one form of trust receipt is used when the merchandise against which the bank has advanced funds remains in the control of its customer. Another form is used to cover the delivery of merchandise actually sold and is also used in connection with import letters of credit when the relative shipping documents have been surrendered to the customer in order to enable him to make delivery to the buyer. Another form is used in connection with import letters of credit and is temporarily accepted against the surrender of shipping documents for the purpose of enabling the bank's client to place the merchandise in warehouse and pending the delivery of the warehouse receipt. Still another form, known as a "bailee receipt," is very specific as to the terms and conditions under which the client of the bank is permitted to obtain possession of the merchandise.

In general, trust receipts specify that the title to the goods is with the bank and that they are being held in trust by the customer who agrees to turn over to the bank the proceeds from their sale until the total debt is settled. The bank is empowered to take possession of the goods at any time, although if this action should be considered necessary because of financial embarrassment of the customer, no little difficulty might be experienced in determining which of the goods were covered by the trust receipt. As a matter of practice banks, while reserving the right to enforce the provisions of a trust receipt, usually allow the customer more leeway in settling his obligations.

11. Hypothecation Certificate.—To hypothecate means to give personal property as a pledge to secure a note, draft, or other obligation. Hypothecation certificates are commonly used to

pledge collateral securities on call loans and shipping documents in connection with foreign documentary bills. Although not an indispensable procedure to protect its legal rights, it is the general practice for a bank, which expects to purchase from a given concern documentary bills, to require the firm to sign a hypothecation certificate; this document makes the legal acknowledgment which constitutes the bank or any other holder of the draft also a holder of the bills of lading and insurance certificates as collateral security. Where a large number of drafts are to be purchased the instrument often takes the form of a general letter of hypothecation covering all the bills which are negotiated to the bank by its customer during the life of the letter.

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Consult table of contents under Bills of Lading, Consular Documents, Inspection of Certificates.

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CHAPTER V

LETTERS OF CREDIT

1. Purpose of Letters of Credit.—Letters of credit may be classified according to whether they are issued to facilitate financing trade, that is, commercial letters of credit, or to furnish the traveler with funds, that is, travelers' letters of credit. Both of these are issued by banks and are in effect statements of authorization and undertaking. The beneficiary is authorized to draw drafts and the issuing bank undertakes to have them honored. Closely akin to a commercial letter of credit in purpose, but used much less frequently, is an "authority to purchase."

2. Import and Export Letters of Credit.[1]—Import and export letters of credit (Form 13) are instruments designed for the purpose of enabling exporters to draw their drafts upon a bank instead of upon the importers to whom the merchandise has been sold. The two principal ways in which an exporter may receive payment for a shipment of goods are: (1) by drawing a bill of exchange, and (2) by receiving a remittance of exchange, either directly from the importer or indirectly through a bank. If the exporter draws, the drawee may be either the importer or some banking institution which has agreed to act for the importer. When an importer has made the necessary arrangements to allow the exporter to draw on a bank, this right to draw bills against merchandise shipments is known as a "commercial credit" and also a "bank credit." The instrument which testifies to or affirms the opening of this credit at a bank is called an "import letter of credit" or an "export letter of credit," as the case may be; the

[1] Commercial letters of credit are also dealt with in the chapters on foreign exchange.

COLONIAL TRUST COMPANY OF NEW YORK

Credit No. *14672*

$50,000 U. S. C.
Lopez & Stevenson
Buenos Aires, Argentina

Foreign Department
New York, *April 12, 1922*

Dear Sirs:

At the request and for the account of ... *Rand & Company, New York*, ... we hereby authorize you to value on

COLONIAL TRUST COMPANY OF NEW YORK, NEW YORK

at ... *Four (4) Months sight* ... for the sum or sums not exceeding a total of .... *Fifty thousand dollars ($50,000)* ..... accompanied by commercial invoice, consular invoice, bills of lading, and .... *Marine insurance certificates* .... representing .... *cost, insurance and freight* .... shipment of .... *dry hides from Buenos Aires, Argentina, to New York* .....

Insurance .... *Marine insurance to be effected by the shippers* .....

Bills of lading for such shipments must be drawn to the order of *Colonial Trust Company of New York, New York* .....

A COPY OF THE CONSULAR INVOICE AND ONE BILL OF LADING MUST BE SENT BY THE BANK NEGOTIATING DRAFTS, DIRECT TO COLONIAL TRUST COMPANY OF NEW YORK, ... *New York.*

The amount of each draft negotiated must be endorsed hereon.

We hereby agree with bona fide holders that all drafts drawn by virtue of this Credit, and in accordance with the above stipulated terms, shall meet with due honor upon presentation at the Colonial Trust Company of New York, New York, if drawn and negotiated prior to ... *July 31, 1922*

COLONIAL TRUST COMPANY OF NEW YORK

N. B. Drafts drawn under this Credit must bear the clause "drawn under Letter of Credit No. *14672*. Dated, *April 12, 1922*"

Form 13. Import Letter of Credit (Dollars)

Issued in duplicate—original copy shown

term "commercial letter of credit" is commonly used to refer to both. The commercial letter of credit is essentially a statement of information addressed to the merchant, who is thereby authorized to draw drafts on the bank under certain conditions which are specified. Of importance from the legal viewpoint is the fact that the commercial letter of credit is not merely an authorization but also an undertaking on the part of the issuing bank, which assures the exporter that his drafts will be honored when he complies with the required terms.

Commercial letters of credit are accepted readily by merchants in any part of the world, because they know that as soon as the merchandise has been shipped they can obtain reimbursement through their local banks by presenting the credit together with the documents stipulated. The details of a letter of credit are matters for arrangement between the importer and the foreign shipper. Letters of credit can, when necessary, be established by cable, saving the delay in waiting for their transmission by mail. The commissions charged for bank credits are roughly proportional to the length of life or usance of the drafts, and vary ordinarily from ¼ to ½ per cent on sight drafts, to ⅞ to 1 per cent on drafts to be drawn at 4 and 6 months. Frequently concessions from these rates are made in favor of houses of prime standing that have large and regular dealings with the bank.

3. Advantages of Letters of Credit in Foreign Trade.—The extensive use of letters of credit is not to be wondered at when their many advantages both to the importer and to the exporter are considered. By means of a letter of credit an importer can readily obtain goods from foreign merchants who ordinarily cannot be expected to know or rely upon his business standing. Furthermore these purchases can be made where the exporter requires cash at the time of shipment. The importer may with safety give advance orders for goods for future delivery and may make immediate arrangements for their manufacture or sale.

By the system of letters of credit the importer is enabled to finance the shipment of his merchandise by borrowing funds ultimately from the world's monetary centers at the comparatively low rates of interest regularly prevailing there. Finally, from the viewpoint of the importer there is afforded the greatest security practically possible against collection of cash by the exporter without the performance of his part of the mercantile contract, namely, the shipment of the goods.

Decided benefits from the letter of credit system accrue also to the exporter. Protected by a letter of credit he may, upon receipt of instructions from the foreign buyer, with reasonable safety begin manufacturing or collecting merchandise for later shipment. He is enabled to obtain cash payment in full for merchandise immediately upon shipment. Finally, since the draft drawn by the exporter is specifically authorized by a bank, the danger of its dishonor, and therefore the contingent liability of the exporter as drawer, is reduced to a negligible minimum.

4. Domestic Letters of Credit.—Domestic letters of credit are generally used in financing export and import shipments between the interior and the seaboard and are similar to foreign letters of credit in form and operation. But whereas the ocean bill of lading is the principal document used in connection with a foreign letter of credit, in the case of a domestic letter of credit railroad bills of lading and warehouse receipts act as collateral security.

To illustrate: An exporter in New York requests his bank to open a domestic credit in favor of a manufacturer in Detroit. A letter of credit stating the terms, i.e., sight, 30 days, etc., under which the manufacturer is to be reimbursed will be issued to the exporter, who will mail it to the manufacturer. The latter, after having delivered his goods to the railroad company, receives railroad bills of lading, which he presents to his Detroit bank. This bank makes payment to the manufacturer in conformity with the terms of the credit and forwards the documents to the

New York bank which then, in return for a trust receipt, hands the railroad bills of lading to the exporter who has established the credit. When the shipment of goods reaches New York the exporter surrenders the railroad bills of lading, takes possession of the goods, and forwards them to an ocean steamer, receiving ocean bills of lading in return.

5. **Authority to Purchase.**—An "authority to purchase" is a credit document which is used only in trade with the Orient and is issued almost solely by far eastern banks to facilitate the financing of imports from the United States. Only occasionally is an authority to purchase issued by an American bank to cover imports into the United States. In the past, inadequate banking facilities in the Orient, and in China in particular, have made it practically impossible to use the regular commercial letter of credit. Consequently it has been necessary for the American exporter to draw directly on the Chinese merchant. The latter, in order to furnish the American exporter with a market for his drafts, arranges through a Chinese bank to issue an authority to purchase. This instrument is in effect a letter of guaranty and gives the exporter assurance that he will be able to sell or negotiate his draft at the time of shipment. The exporter is not empowered to draw on a bank, but draws directly on the importer. The real purchaser of the draft will be the importer's bank, to whom the importer is known, and not the bank in the country of the exporter. However, a bank in the exporter's country will, as agent, make the payment of money to the exporter and will then forward the draft to the bank which issued the authority to purchase.

6. **Travelers' Letters of Credit.**—The travelers' letter of credit (Forms 14 a and b) is a statement issued by a bank, usually in the form of a circular letter to its correspondents in specified places throughout the world, informing them that the traveler or

COLONIAL TRUST COMPANY OF NEW YORK

CIRCULAR LETTER OF CREDIT

No. *21,600* £. ... *2,000*#

New York, *February 20*, 1922

Gentlemen;

We beg to introduce to you and to commend to your courtesies Mr. ..... *R. P. Stuart* ..... in whose favor we have opened a credit of ..... *Two thousand* ..... Pounds Sterling, and whose drafts to that extent, at sight, upon the

Colonial Trust Company of New York, London,
64 Lombard Street

we engage shall meet with due honor if negotiated within ... *nine* ... months from this date.

The amount of each payment must be endorsed on this letter, and your negotiation of the drafts will be considered a guarantee that the requisite endorsements have been made.

You will please observe that all such drafts be marked as "Drawn against the Colonial Trust Company of New York Letter of Credit No. 21,600."

This letter must be attached to the last draft drawn.

We remain Dear Sirs,
Yours faithfully,

[Signature of]

R. P. Stuart

Norman A. Little
Vice-President

Raymond D. Atwell
Secretary

To Messieurs Our Correspondents

Form 14. (a) Travelers' Sterling Letter of Credit (face)

SPECIFICATION

OF ALL PAYMENTS MADE UNDER THIS LETTER OF CREDIT

(Please endorse all payments in Pounds Sterling currency in which this credit is issued.)

Date When Paid		Paid By	Sterling Amounts In Word	Sterling Amounts In Figures		
Mar.	*25/22*	*Far Eastern Bank Shanghai*	*Twenty pounds Stg.*	£20	*0*	*0*
Apr.	*10/22*	*Oriental Bank Singapore*	*Sixty pounds Stg.*	£60	*0*	*0*
			Amount carried forward			

Form 14. (b) Travelers' Sterling Letter of Credit (reverse)

beneficiary is authorized to draw sight drafts for any amount not exceeding a specified sum either on the issuing bank itself or on a central correspondent named in the letter, usually one in London. Travelers' letters of credit may be classified as: (1) domestic, which are drawn in local currency for use in the country where they are issued, and (2) foreign, which before the war were usually drawn in sterling but which are at present also drawn to a large extent in dollars. At the time of purchase the traveler is required to sign his name upon the document and also upon a letter of indication (or identification) and is advised to keep the two letters apart. When the traveler desires funds he presents his letter to the proper bank at the place where he is stopping. The banker to whom the letter is presented for payment will draw a sight draft on the issuing bank or its central correspondent abroad, and will require the traveler to sign it. The ability of the traveler to reproduce his signature placed upon the letter at the time of its delivery to him or upon the separate letter of indication will serve to identify him.

Just as in the case of commercial letters of credit, when drafts are drawn they are recorded on an appropriate page, and when the credit has been exhausted the letter will be retained by the bank that has cashed the last draft and will be forwarded together with the draft to be surrendered to the drawee bank. If the traveler comes home without having exhausted the credit, his bank will refund the balance that has not been used.

Only the larger banks issue their own letters of credit, whether these authorize drafts upon themselves or upon central correspondents abroad. Many smaller banks have arrangements whereby they can issue letters practically as agents of the large institutions. Although commissions charged for issuing travelers' letters of credit vary rather widely, 1 per cent is a fairly common rate.

Sometimes the letter of credit is addressed to only one bank, in which case it is referred to as a "specially advised" credit.

Such credits are issued when the traveler expects to spend most of his time abroad at one place. A "clean credit" is sometimes opened (usually by cable) at a designated foreign bank in favor of the traveler. This latter form of credit does not require the use of the letter of credit instrument; it is very similar to a deposit account opened in a foreign bank.

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CHAPTER VI

NEGOTIABILITY

1. Meaning of Negotiability.—Because of the particular services which certain credit instruments render in commercial transactions, special attributes or qualities have been assigned to them by the earlier law of merchants and by common and statutory law. Negotiability is a legal attribute possessed by certain written contractual obligations, and means the quality of transferability or salability which gives to the bona fide holder for value exceptional rights and facilities to enforce payment. The transfer of title is effected in the simplest manner, either by indorsement or by mere delivery, provided, of course, value is given; "to negotiate a bill of exchange," therefore, can only mean to transfer it for value. It is often stated that a negotiable instrument confers upon the bona fide holder a right of action in his own name. This is a faulty definition because in many cases it is not true. Foreign government bonds are universally acknowledged as negotiable securities, yet the holder cannot sue the foreign government for their payment if in default; neither can the holder bring a maintainable action against the bank or house which issued such bonds in behalf of the foreign government. In short, it is against the comity of nations and international policy to entertain an action by an individual against another state. And in our own country no person can of his own accord bring suit against any state or the national government to recover on state or federal bonds.

2. Historical Significance.—To throw light upon the historical significance of negotiability, it is helpful to consider briefly certain aspects of the development of the law of merchants. The "law

merchant," or "law of merchants," refers to a body of rules deduced from customs and usages general among medieval merchants, and regulating matters peculiar to their dealings, such as commercial paper, exchange, sale and transportation of goods. In the medieval markets trade customs were established outside national and territorial law by the necessity of the case. At the time when trading began, all foreigners were presumed to be enemies. Nevertheless, a system of silent barter, then of markets, and later a special peace of markets and hospitality for foreign merchants grew up without any sanction other than convenience. The summary practice which developed in these markets did not rest exclusively on the positive institutions and local customs of any particular country but consisted of certain principles of equity and usages of trade which general convenience and a common sense of justice established to regulate the affairs of merchants and mariners in all the commercial countries of the civilized world.

There is no reason to suppose that merchants first sought the aid of the regular courts and were refused; the formal procedure, repeated summons, and laws of various local bodies, were plainly too slow and unsuited for them. In England, for example, the attributes of a bill payable "to order" or "to bearer" were incompatible with the legal details required for the transfer of property and the carrying out of other forms of contracts. As a means of settling payments at the great fairs and market places of the Middle Ages there was needed an instrument which in the hands of an innocent third party should be free from personal defenses and equities of prior parties. In the dealings between merchants many irregularities were bound to arise, and if a third party were asked to accept an instrument whose ownership might later be subject to litigation he would ordinarily refuse, because of the risks involved. Moreover, in a period when even domestic travel was fraught with many dangers and the transportation of actual money for making purchases or settling debts was a very

risky undertaking, it is not surprising that out of the need should arise mere pieces of paper possessing by common usage special attributes of salability.

3. Negotiable Instruments.—Commercial paper, including bills of exchange, notes, warehouse receipts, order bills of lading, warrants calling for the delivery of goods or money, and many other documents when properly drawn are negotiable; but, of course, the actual goods covered by these instruments are not negotiable. Money possesses negotiability in the fullest sense. A person wrongfully in the possession of money may transfer it to another in payment for goods or services, and this second person will have perfect legal right to it, provided he has acted in good faith. This is to be contrasted with a non-negotiable article, such as an automobile. The innocent purchaser of a stolen car does not obtain legal title to it, and it can be recovered by the person from whom it was stolen, whose title is not affected by the theft. Similarly, in the case of a non-negotiable instrument, the purchaser receives it subject to all its original defenses and should protect himself by an investigation of its origin and history.

4. Purpose Served by Negotiability.—The attribute of negotiability is thus given to certain instruments of exchange in order to facilitate business transactions. Two somewhat contrasting interests must be served. On the one hand, the financial machinery of trade must be provided with all the equipment necessary to work quickly and without interruptions on account of defects in any of the parts. For this reason negotiability is a quality which commercial paper must possess in order to circulate freely and to perform the greatest possible service. Otherwise a banker or note-broker buying in good faith a bill of exchange or note would have to determine whether a consideration was given by every prior holder, or whether a counter-claim against some prior party or a fraudulent act occurred somewhere in its history,

thereby nullifying his right to enforce payment. On the other hand, the property rights of all the individuals involved must be given adequate protection consistent with the wider needs of business society.

Under certain conditions the holder of a negotiable instrument may have more rights than those possessed by the person from whom it was received. For example, the First National Bank has purchased in good faith from Robert Moseley a promissory note made out to him as payee by Andrew Arnold. It subsequently develops that the instrument contains a legal defect known as "failure of consideration," occasioned by the nondelivery of some chemicals purchased by Arnold from Moseley. Moseley could not have collected on it because of Arnold's legal defense of failure of consideration, but the bank as an innocent purchaser, unaware of this defect, can enforce payment by Arnold.

5. Requirements of Attribute.—Any instrument to be negotiable in the highest degree must conform to the following requirements:

1. It must be in writing (includes print and pencil-writing) and signed by the maker or drawer.

2. It must contain an unconditional promise or order to pay a sum certain in money.

3. It must be payable on demand or at a fixed or determinable future time.

4. It must be payable to order or to bearer.

5. Where an instrument is addressed to a drawee, as in the case of a bill of exchange, this person must be named or otherwise indicated with reasonable certainty.

6. Uniform Negotiable Instruments Law.—A uniform negotiable instruments law has been adopted with little variation by the majority of the states. It is a codification of the common law

and the law merchant applicable to bills and notes. Its object is to make this important branch of law uniform throughout the United States. Although several of the states have made certain statutory changes in enacting it, the changes are for the most part of minor importance and it may be said that the law of bills and notes is now practically uniform in this country. The material in this chapter follows closely the Negotiable Instruments Act of New York.

7. **Indorsement—How Made.**—The indorsement must be written on the instrument itself or upon a paper attached thereto, called an "allonge." The signature of the indorser without additional words is sufficient. Rubber stamps are very commonly used, and such indorsements are usually valid except in localities where clearing-house rules forbid; but a stamp indorsement has the disadvantage of being more difficult to prove authentic than one in handwriting. An indorsement written in pencil is valid, though not desirable. When the payee of an instrument, such as a check, indorses by mark (X) and his signature is witnessed, the witness's signature is considered a warranty of the genuineness of the payee's indorsement, just as a subsequent indorser warrants the genuineness of the signature of each prior indorser.

The indorsement must cover the entire instrument. An indorsement which purports to transfer to the indorsee a part only of the amount payable, or which purports to transfer the instrument to two or more indorsees severally, does not operate as a negotiation. But if the instrument has been paid in part it may be indorsed as to the remainder.

8. **Blank Indorsement.**—There are several different kinds of indorsements. These will be first described, followed by specific examples. An indorsement may be either special or in blank, and it may also be either restrictive, qualified, or conditional. A

special indorsement specifies the person to whose order the instrument is payable; and the indorsement of this person is necessary to the further negotiation of the instrument.

An indorsement in blank consists simply of the signature of the indorser and specifies no indorsee. An instrument so indorsed is payable to bearer and may be negotiated by delivery without requiring indorsement by each successive holder. The holder may convert a blank indorsement into a special indorsement by writing "Pay to [his name]" over the blank indorsement.

9. Restrictive Indorsement.—A restrictive indorsement is one which:

1. Prohibits the further negotiation of the instrument.
2. Constitutes the indorsee the agent of the indorser.
3. Vests the title in the indorsee in trust for or to the use of some other person.

The weight of authority is to the effect that an indorsement, "for deposit to the credit of" the depositor, is restrictive. A restrictive indorsement confers upon the indorsee the right:

1. To receive payment of the instrument.
2. To bring any action thereon that the indorser could bring.
3. To transfer his rights as such indorsee, where the form of the indorsements authorizes him to do so.

The form commonly used is "Pay to C. D. for collection. A. B." Another form is "Pay to C. D. only. A. B."

10. Qualified Indorsement.—A qualified indorsement simply passes title without making the indorser liable upon the paper, except in case of fraud or forgery. It may be made by adding to the indorser's signature the words "without recourse" or any phrase of similar meaning. Such an indorsement does not impair the negotiable character of the instrument, nor does an indorsement without recourse relieve the indorser from responsibility in

case of fraud or forgery. By this indorsement the indorser warrants that the instrument is genuine and in all respects what it purports to be. "A gave his note for $5,000 to a cattle company, secured by a chattel mortgage on certain cattle. The cattle company indorsed the note without recourse and sold the note and the mortgage to a bank. The note and the mortgage proved fraudulent, there being no such cattle as described in the mortgage. Opinion: The cattle company is liable to the bank, as there was a breach of implied warranty of the validity of the thing sold."[1]

11. **Conditional Indorsement.**—If an indorsement is conditional, a party required to make payment may disregard the condition and pay the indorsee or transferee, whether the condition has been fulfilled or not. However, any person to whom an instrument is so indorsed will hold it, or the proceeds, subject to the rights of the person indorsing conditionally. The following is an example of a conditional indorsement: "Pay to Henry W. Goodwin or order on completion of the Tyler Building. R. H. Scott."

12. **Rules Concerning Indorsement.**—If an instrument is drawn payable to bearer it does not legally require indorsement. An instrument payable to the order of two or more payees or indorsees who are not partners must be indorsed by all, unless the one indorsing has the authority to indorse for the others. "Where a check payable to A and B, who are not partners, is indorsed 'A and B per A' and is offered for deposit to the credit of A's personal account, the bank before accepting the deposit should be satisfied that B has authorized A to make such indorsement. Where A and B are partners, the general rule is that in the case of a trading or commercial firm, any member has implied authority to indorse and transfer paper by indorsement in the

[1] Paton, Digest of Legal Opinions, p. 93.

firm's name, and such transfer may be made to himself. Such authority is not implied in the case of a non-trading firm."[2]

An instrument drawn or indorsed to a person as cashier or other fiscal officer of a bank or corporation is deemed prima facie to be payable to the bank or corporation of which he is such officer; and may be negotiated by either the indorsement of the bank or corporation or the indorsement of the officer.

Negotiable instruments should be indorsed precisely as they are drawn. If an instrument is drawn to the order of T. B. Macaulay it should be so indorsed, and not Thomas B. Macaulay. "A check was drawn to the order of Miss F. M. Taylor and bore the indorsement of F. M. Taylor. *Opinion:* The indorsement is in proper form as the prefix Miss is not recognized in law as a part of the payee's name."[3] If a name of a payee or indorsee is wrongly designated or misspelled he may indorse the instrument as therein described, adding, if he thinks fit, his proper signature.

An accommodation indorsement is made when a person indorses in order to lend his credit to another party to the instrument. For example, A. B. Collins wishes to borrow money at a bank and asks D. E. French to lend his credit. Collins makes out a promissory note payable to French's order, French indorses it in blank, and Collins then has it discounted at the bank. French is the accommodation indorser and the instrument is called "accommodation paper."

13. Illustrations of Various Kinds of Indorsement.—

1. An indorsement in blank:

Henry Clay

makes the instrument payable to bearer.

2.

Pay to the order of John C. Calhoun
Henry Clay

[2] Paton, Digest of Legal Opinions, p. 89.
[3] *Ibid.*, p. 87.

restricts the payment to John C. Calhoun or order. This is a much safer form of indorsement than the indorsement in blank. If the instrument should be lost or fall into wrongful possession, payment could not be collected; John C. Calhoun's signature is necessary before payment can be made. A restricted indorsement of this kind, or like illustration 3, is desirable when checks are sent through the mail for deposit in a bank and in general when negotiable instruments are being transferred by one holder to another through the means of some forwarding agency.

3.

For deposit with the Hub Trust Company to the credit of
Henry Clay

is a restrictive indorsement. Under the rules of certain clearing houses a check with a "for deposit" indorsement is not payable through the clearing house unless prior indorsements are guaranteed by the bank of deposit.

4.

Without recourse
Henry Clay

conveys or transfers but does not guarantee the title. The words "without recourse" mean that Henry Clay wishes to incur no liability as an indorser but wishes simply to transfer the title.

5.

Pay Daniel Webster only
Henry Clay

restricts payment to Daniel Webster.

6.

Pay to the order of Millard Fillmore, Treasurer ABC
Company
Henry Clay

does not permit the personal or private use of this money by

Millard Fillmore, and imposes liability upon the organization of which he is treasurer.

7.

Pay to the order of Horace Greeley for collection
Henry Clay

has the same effect as indorsement 6. When a check is so indorsed and delivered to a bank, the latter receives it merely as the agent of the indorser for the purpose indicated and the title to the check remains in the indorser.

8.

Pay to the order of Franklin Pierce for account of
Andrew Jackson
Henry Clay

has also the same effect as indorsement 6.

9.

Prior indorsements guaranteed
Oceanic National Bank

is a form of indorsement used by banks, particularly on checks for the clearing house. It guarantees the genuineness of prior indorsements and covers imperfections and any irregularities. "A check was payable to Mrs. John Doe and was indorsed without authority 'Mrs. John Doe by John Doe.' The bank which cashed the item indorsed 'all prior indorsements guaranteed,' the drawee bank paid the check and Mrs. Doe did not receive the money. *Opinion:* 'All prior indorsements guaranteed' warrants the genuineness of the payee's indorsement, not only where the name of the payee is forged, but also where the payee's name is signed without authority by another."[4]

14. Acceptance.—Acceptance is the signification by the drawee of his assent to the order of the drawer. When present-

[4] Paton, Digest of Legal Opinions, p. 90.

ment for acceptance is required, the objects are: (1) to fix the time when the bill matures, and (2) to charge the drawer and indorser with liability. There are two kinds of acceptance, general and qualified. A general acceptance binds the acceptor to carry out the order of the drawer without qualification. An acceptance which makes payment dependent upon any condition or in express terms varies the effect of the bill as drawn, is called a "qualified" acceptance.

A bill cannot be accepted verbally. The acceptance must be in writing and must be signed by the drawee. However, an acceptance by telegraph is valid if properly expressed. An acceptance written on a separate piece of paper is valid, but binds the acceptor only in favor of a person to whom it is shown and who, on the faith thereof, has received the instrument for value.

When a bill is delivered to a drawee for acceptance, under the negotiable instruments law he has twenty-four hours to decide whether or not to accept. If presentment for acceptance is required, the holder must present the bill for acceptance or negotiate it within a reasonable time. However, there is no fixed rule as to what constitutes a reasonable time; it depends upon the circumstances of each particular case. If a bill of exchange is payable at the drawee's place of business 30 days after date, presentment for payment at maturity is sufficient; but if payable 30 days after sight, presentment for acceptance is necessary in order to determine the day of maturity.

15. Presentment for Payment.—Presentment of a bill of exchange or a note for payment at the proper time is necessary to charge persons secondarily liable, that is, the drawer and the indorsers. In most of the states days of grace have been abolished. If an instrument specifies a day of maturity it should be presented at a reasonable hour on the day on which it falls due. When an instrument matures on Saturday, Sunday, or a holiday, it should be presented for payment on the next succeeding

business day. A demand note must be presented within a reasonable time after its issue. Just what is a reasonable time depends upon the circumstances of each particular case. At the option of the holder a demand note may be presented before 12 o'clock noon on Saturday, when that entire day is not a holiday.

A check is not intended for general circulation as a medium of exchange and should therefore be presented promptly; if on a local bank it should be presented during banking hours on the day following its receipt. Failure to present a check within a reasonable time discharges the drawer to the extent of any loss as a result of the delay, as, for example, because of the failure of the bank.

16. Liabilities of Parties.—The maker of a promissory note engages that he will pay it according to its terms and therefore assumes the primary liability. In the case of a draft or bill of exchange the drawer agrees that if the instrument be dishonored he will pay the amount called for to the holder or to any indorser who may be required to pay it. The acceptor of a draft or bill of exchange assumes primary liability and agrees that he will pay it according to the tenor of his acceptance. Every indorser who indorses without qualification engages that if the instrument is dishonored he will reimburse the holder, or any subsequent indorser who may be compelled to make payment. With respect to one another, indorsers are liable prima facie in the order in which they indorse, but evidence is admissible to show that as between themselves they may have agreed to be liable jointly or otherwise.

17. Protest—Meaning of.—The term "protest" in its commercial usage includes all the steps necessary to fix the liability of the drawer or the indorsers upon the dishonor of a negotiable instrument. In the strict legal sense it signifies the testimony before a notary or other authorized person that the instrument

has been presented, demand for acceptance or payment made, such demand refused, and the instrument dishonored, followed by a solemn declaration or formal "protest" that any resulting loss shall be borne by the drawer or indorsers, and not by the holder. Formal protest, as distinguished from demand and notice of dishonor, is not required to hold the indorsers if the instrument is an inland bill of exchange. An inland bill of exchange is one drawn and payable in the same state even if the payee is located in another state; a foreign bill of exchange is an instrument drawn in one state and payable in another. In the case of an inland bill of exchange, however, protest is often desirable for better protection. It enables the holder to obtain a convenient means of proving dishonor in case he is compelled to bring suit on the paper; the notary's certificate of protest is admitted as prima facie evidence and obviates the necessity of calling witnesses and proving dishonor by other testimony.

18. **Protest Fees.**—Protest fees, which are fixed by statute and include a certain charge for the formal protest and a certain charge for each notice of dishonor, are added to the amount to be paid by any party liable on the instrument. Interest also is added from the time the instrument became due until the drawer or prior party makes payment to the holder. Protest itself is ordinarily indicated on the bill or note by writing in brief form some such statement as "Payment demanded and refused January 10, 1922, R. O. J. Fees $1.25." This means that on the date indicated the notary whose initials are written made due presentment and demand, that the instrument was dishonored and protested, and that the notary's charges are $1.25. The notary may at any subsequent date "extend" the protest by making out his formal certificate.

19. **Requirements of Protest.**—When a bill is protested, such protest must be made on the day of its dishonor, unless the delay

is excused as provided by law in certain circumstances. A bill must be protested at the place where it is dishonored, except that when a bill is drawn payable at the place of business or residence of some person other than the drawee, and has been dishonored by non-acceptance, it must be protested for non-payment at the place where it is expressed to be payable and no further presentment for payment to, or demand on, the drawee is necessary.

Usually the notary gives the necessary notice of dishonor to the drawer or indorsers, but this may be done by the holder or by any agent of his. When the notary gives such notices he may include a statement to that effect in his certificate, but the practice in this matter varies. If the statement that notices have been duly given is not contained in the certificate, the fact would have to be proved at a trial by the evidence of the notary or other person who gave them.

In some cases banks and other holders of negotiable instruments prefer to avoid protest fees by requesting that the instruments are not to be protested in case of dishonor. Instructions of this kind are usually indicated on a perforated edge of the instrument which may read simply "No protest." If the instrument is to go through the ordinary channels of formal protest in case of dishonor this perforated edge is detached.

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CHAPTER VII

BUSINESS OF BANKING

1. **Historical Development—Money-Changers.**—In the development of the mechanism of exchange which has been described in the preceding chapters, a distinct branch of business, known as "banking," has been created. This embraces a great variety of operations. In some of its practices it dates from antiquity. New functions have been added to meet the changing needs of commerce and industry. At one period the emphasis has been to facilitate individual transfers of credit; at another to furnish a convenient medium of exchange; at another to quicken the operations of settlement of indebtedness between distant points; at another to provide a safe place for the keeping of funds; and at another to supply credit to those in need of readily available capital.

The use of instruments of credit, as promissory notes, bills of exchange, and transfer checks, was known several centuries before Christ. As trade developed between different countries, the exchange of foreign moneys became a specialized trade. Assyria, Babylonia, Greece, and Rome were familiar with money-changers. In Rome money-changers also accepted money for deposit, loaned money, and dealt in foreign bills of exchange. A special body of law was developed relating to these subjects. The downfall of Rome, followed by the Dark Ages, with insecurity of property and lessening of commercial enterprise, checked the growth of these operations. By the eleventh century Italy enjoyed a restoration of social order and commercial stability, and the simpler operations of the banking business, referred to above, again became an important occupation, largely in the hands of the Jews and the Lombards.

2. Rise of the Bank.—The next step was to organize this private occupation into more powerful associations. "The individual money-changer, the Jewish lender, the Lombard banker, gradually gave way, as centralization advanced in commerce and in national life, to public banks doing business under official authority."[1] Public banks were established in Venice (1587) and Amsterdam (1609). These banks were more concerned in providing a convenient currency, aiding governments by loans, and assisting in settlement of indebtedness, than in organizing and supplying credit. The creation of credit through the issue of the bank's promissory notes based upon public confidence rather than upon a metallic reserve has been largely an evolution of a more recent period. And the past century has witnessed a specialization of all these varied activities—money-changing, foreign exchange, care of deposits, advance of credit, and the creation of currency with wide acceptability—so that now there are many different kinds of banking institutions, some exercising only one or two of these functions, and some covering the entire range.

3. Definition of a Bank.—As a result of these changes, it is difficult to define the term "bank" precisely. Many definitions have been given. Dunbar describes it as an "establishment which makes to individuals such advances of money or other means of payment as may be required and safely made, and to which individuals entrust money or other means of payment, when not required by them for use. In other words, the business of a bank is said to be to lend or discount, and to hold deposits. With these two functions may be combined a third, that of issuing bank notes, or the bank's own promises to pay, for use in general circulation as a substitute for money."[2]

According to Johnson, "A bank is an institution which deals

[1] C. A. Conant, The Principles of Money and Banking, Vol. II, p. 176.
[2] C. F. Dunbar, Theory and History of Banking, p. 9.

in credit."[3] A similar definition is that recently given by an American banker: "A great many people think of a bank as a place to put away money and when they want it to go and get it again—but that is not a bank—that is a safe deposit box. A bank is a manufacturer of and a dealer in credit."[4] Conant puts the emphasis on the service which banking furnishes in making easy the exchange of goods. "The function of the banker lies in economizing the use of money, and thereby in further diminishing the cost and effort of exchange."[5]

In brief, banking institutions are concerned with the business of making loans, receiving and investing deposits, and effecting the transfer of credits from one person to another. To carry out these objects, other functions may be exercised by a bank as in the issue of bank notes, in order to enlarge its own credit.

4. Classification of Banks—According to Function.—According as the emphasis is laid upon a particular activity or function, banks in the United States may be classified as:

1. Commercial banks, which are engaged in making loans to business establishments, receiving deposits against which checks may be freely drawn, transacting exchange operations, and making collections on commercial paper which becomes due.
2. Savings banks, for the care and investment of deposits—the service to the depositor and the security of the deposit being the first object.
3. Trust companies, which were originally organized for the care of estates or property held in trust.

Many of these last-named institutions now possess attributes of commercial banks on the one hand and of savings banks on the

[3] J. F. Johnson, Money and Currency, p. 44.
[4] David R. Forgan in *Bankers' Magazine*, June 1920, p. 977.
[5] C. A. Conant, The Principles of Money and Banking, Vol. II, p. 206.

other. Owing to the extension of this activity the term "trust company," as distinguished from a bank, has little significance in some states.

Other institutions besides those named may do some form of banking business, as: Express companies deal in exchange and issue money-orders; mortgage investment companies make loans on real estate; investment houses underwrite loans to large corporations; building and loan associations and co-operative banks make loans to members for building; private bankers make loans and receive deposits; note-brokers act as agents in placing short-term loans for business men and corporations; and even the government, through the post-office, assists in the work of transferring money by the issue of money-orders, and receives savings deposits. Some of the larger insurance companies, by reason of the constant stream of cash received from policy-holders, find it advantageous to engage in banking operations, not only by investment in securities but by discount of short-time paper.

One writer has observed that "the savings bank is usually the bank of the small depositor, the wage-earner, and the thrifty of all classes; the trust company gives its services more especially to those who have fixed incomes from investments, landowners, and corporations. The commercial bank does business with manufacturers, tradesmen, merchants and others who 'turn' their money at seasonal intervals."[6] But the different classes of banking institutions so blend into each other in the services which they render that in some sections the choice of a bank, whether it be called a "national" bank, a "state" bank, a "savings" bank, or a "trust company," is a matter of indifference. Many national banks, state banks, and trust companies have savings departments designed to meet the needs of the small depositor; and many so-called savings banks engage in commercial banking by supplying credit facilities to the manufacturer and merchant.

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[6] O. H. Wolfe, Elementary Banking, p. 17.

5. Source of Charter.—Banks are also classified, according to the source of charter, as:

1. Federal, that is, organized under federal law, for example, the old First United States Bank, 1791–1811; the Second United States Bank, 1816–1836; national banks, dating from 1863; and federal reserve banks established in 1914.
2. State banks, organized under state laws.
3. Private banks which do not have any banking charter.

According to the formal classification of banking institutions adopted by the Comptroller of the Currency in his annual review of banking operations, the following types of banks are to be noted: national banks, state banks, loan and trust companies, mutual savings banks, stock savings banks, United States postal system, private banks, federal reserve banks, federal farm loan banks, and building and loan associations. As stated above, these names in some cases have little significance as an index of the kind of business performed, but the classification is useful in making a general survey of the banking business.

6. Commercial Banking.—There is a further distinction—that between commercial banking and financial banking. By "commercial banking" is meant the use of short-term credit to aid in the production and marketing of commodities. "Financial banking" applies the resources of credit to fixed forms of investment, as in stocks and bonds. With the rapid increase in the volume of securities during the past twenty years, and the opportunities for favorable speculative investment, there has been a great temptation for banks to use their resources in the purchase of securities for the profits to be gained by advance in price. Banks which follow this policy tend to become investment or finance companies, although they are still known as banks.

It is the practice of most commercial banks not to deal with

undertakings which are in the promotion stage, and to refuse to become interested in them until they have demonstrated through operation a successful earning power and can render a statement showing a satisfactory relation between current assets and current liabilities. There are good reasons why commercial banks must restrict their functions to that of short-term loans and credits to business men for current operating needs: the fact that most of the depositors have the right to demand funds at any time and that the other depositors are entitled to withdraw their money at short notice requires that the principal assets be of a liquid character—such as can be readily realized upon in case of need. If commercial bankers fail to observe this primary principle and involve themselves in one way or another in transactions involving promotions of enterprises or in large investments in stocks and bonds, difficulties very often follow.

Nor can a large commercial bank advantageously associate itself too intimately with the financing of a business concern. This intimate relationship may induce the latter's competitors to secure banking accommodations elsewhere. The mere fact that an official of a certain bank is a director in some manufacturing plant may cause competing manufacturers to refuse to carry their accounts in this bank because of fear of divulging trade information. To be sure, if the enterprise in question is substantially a monopoly in that particular district the situation is quite different. Many smaller commercial banks, however, are established primarily for meeting the needs of special businesses, such as a shoe or leather plant. In these instances the principal officers of the bank are usually the principal officers of the manufacturing company and the financial problems of one activity merge with those of the other.

Commercial banks can in effect and frequently do advance funds for long-term periods by renewals of loans or by allowing demand notes to run for long periods. It is not to be assumed, however, that from the viewpoint of banking principles this

policy is at all equivalent to the purchase of a company's securities or long-term obligations. On the contrary, the bank is always in a position readily to liquidate its loan if need arises, by refusing to renew it at maturity or by calling for immediate payment in the case of a demand note.

7. Investment Bankers.—The fixed capital requirements of an enterprise, such as for the purpose of purchasing equipment or enlarging the plant, must as a general thing be taken care of elsewhere than through the medium of a commercial bank. Generally speaking, business firms are not equipped for this kind of work because of its very nature. The necessity for it arises only at long intervals in the life of an ordinary establishment, but when that happens the professional services of a specialist and his ability to analyze market conditions for securities makes him an indispensable factor in the project. There is a special class of bankers who provide the channels through which concerns can raise these new funds for capital investment, and a large part of this credit is supplied by bond houses. Bankers who handle this kind of business are termed "investment bankers" to distinguish them from "commercial bankers," who are engaged primarily in supplying their customers with funds for a period ranging from 30 days up to 6 months. In recent years there has been a growing tendency, particularly among trust companies, to establish investment or bond departments to carry on some of the activities of investment banking. Very often the terms "private bankers" and "banking houses" are used synonymously with "investment bankers." Such banking institutions can properly be designated as "private bankers," partly because their dealings with the public are much more limited than are the dealings of commercial banks and savings banks, and partly because they are frequently not incorporated but do business as individuals or partnerships.

A successful investment banker must be constantly in touch with the present market requirements for different classes of

stocks and bonds, and must also be able to foresee with reasonable certainty any changes in the near future. Are interest rates at the moment temporarily high? If so, notes running for 6 months or possibly for one or two years should be issued rather than a long-term bond. Similarly, if the market is speculatively inclined and security prices are advancing, the time may be ripe for an issue of stock instead of bonds.

Ultimately the decision of the investment banker with regard to a new offering of stock or bonds will depend upon the requirements of the customers to whom he expects to resell the securities. The promoter or corporation official who goes to the "Street" for funds and is refused, very often feels that he has been discriminated against and that he is the victim of a money trust. In reality in most such instances the paper which has been offered is of such character that it possesses little if any marketability. The position of the investment banker is then very much like that of the merchant. The merchant receives many requests from salesmen to buy different kinds of merchandise, but his selections must conform to the requirements of his customers. The analogy between the merchant and the investment banker is further illustrated in the case of old business houses which are widely known. Just as their products require little advertising by the merchant, their securities require little advertising by the banker.

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CHAPTER VIII

VARIOUS KINDS OF BANKING AND CREDIT INSTITUTIONS

1. Origin of National Banking System.—When the Civil War broke out, all incorporated banks were organized under state charters. Congress had refused thirty years previously, in Jackson's administration, to renew the charter of the Second United States Bank and the system of state banks operating under state charters, which had already grown up side by side with the First United States Bank (1791–1811) and its successor, the Second United States Bank (1816–1836), took entire possession of the banking field. There was little demand for attempting a third experiment in a centralized institution.

The Civil War introduced new credit and financial tasks which the state banks were not prepared to perform adequately. The government would not accept state bank notes in payment for the national loans put out in 1861, and the banks were unable to pay gold. As a result both the banks and the government suspended specie payments. Moreover, in a time of war the government is obliged to turn to banking institutions for immediate help; the revenue supports are not sufficient. Not only are banks called upon for loans on account of their organized credit machinery but they have the equipment for prompt service in connection with popular loans. State banks operating under different state statutory requirements and grants of power cannot be quickly organized into an effective agency for national aid. Such was the condition at the outbreak of the Civil War. It was also believed that a more stable market for government securities could be established by basing bank note circulation upon ownership and pledge of United States bonds. Much of the currency

issued by state banks was in an unsatisfactory condition and was regarded with suspicion.

Congress, therefore, determined to create a new national system, retaining, however, the principle of local independent banks instead of the establishment of one large powerful centralized institution. By creating a widespread system of banks operating under similar charters uniform throughout the country, it was hoped to establish an agency of financial support to the government as well as to increase public confidence in the currency.

2. **National Banking Act of 1863.**—There were three distinctive features in the National Banking Act passed in 1863 in its application to the functions of the banks organized under federal authority. These were:

1. Responsibility to federal authority in organization, examination, and supervision.
2. Provision for a uniform currency based upon pledge and security of United States bonds previously purchased.
3. Maintenance by each bank of certain definite reserves.

The act provided that a national bank could be formed under permission of the Comptroller of the Currency by any number of persons, not less than five; that the minimum capital should be $50,000 in places of not over 6,000 inhabitants, and a required capitalization of $200,000 in places of over 50,000. The capital stock must be paid in. The charter was to run for twenty years. Stockholders were liable for the amount of their shares and in addition to an equal amount. United States bonds were to be purchased in proportion to the capital. Bank notes were to be issued upon the pledge of government bonds equal to 90 per cent of the par value of the bonds, or of market value if the latter did not exceed the par. The volume of notes was originally limited, but later the restriction was removed. The banks were given power to "exercise all such incidental powers as shall seem neces-

sary to carrying on the business of banking; by discounting, and negotiating promissory notes, bills of exchange, and other evidence of debt; by receiving deposits; by buying and selling exchange, coin and bullion; by loaning money on personal security; and obtaining, issuing, and circulating notes." They were not permitted to purchase and hold real estate except for a banking house or such as might be conveyed as a security for debts previously contracted.

3. Growth of the National Banking System.—The special inducement which early gave an impetus to the new national banking system was the privilege of issuing circulating notes based upon the pledge of United States bonds. This privilege was made the more valuable in 1865 by the imposition of a heavy federal tax upon the notes of state banks; many of the latter institutions consequently found it to their advantage to convert into national banks.

The growth of national banks is shown in the following table:

1865	1,513	1895	3,706
1870	1,648	1900	3,942
1875	2,086	1905	5,833
1880	2,095	1910	7,204
1885	2,732	1915	7,607
1890	3,573	1920	8,093

In 1900, national banks with a capital of $25,000, instead of the previous minimum of $50,000, were authorized, and as a result the number of such banks in the West and South greatly increased, nearly doubling between 1900 and 1910. In New England and some of the eastern states the number of national banks has not kept pace with the growth either of the population or business. This is due to the consolidation of small banks in the larger cities into one institution and also to the conversion of national banks into trust companies which enjoy wider powers under their state charters.

National banks are distinctively commercial banks engaged in supplying short-term credit. Some of these institutions, however, have in recent years engaged, as indicated above, in financial operations closely akin to those of investment bankers; and more recently by the Federal Reserve Act they have been given power, when not in contravention of state or local law, to act as trustee, executor, registrar of stocks and bonds, guardian of estates, assignee, or in any other fiduciary capacity permitted by the law of the state in which the national bank is located. This fiduciary business must, however, be segregated from commercial transactions of the bank and is subject to the supervision of state authority.

4. **Federal Reserve Banks.**—In addition to the national banks holding federal charters there are the twelve federal reserve banks, organized under the act of 1913. Their business is largely confined to dealings with national banks and such state banks and trust companies as comply with certain regulations of the law. These banks are more particularly concerned with safe-guarding the reserves of individual banks and the issue of circulating notes in rediscounting for member banks. Their functions will be described in greater detail in a later chapter.

5. **State Banks.**—Banks operating under state charters have been in existence for nearly a century and a half. In 1784 there were 2; in 1800, 28; in 1850, 824; and in 1860, 1,562. The imposition in 1865 of a federal tax of 10 per cent on state bank note issues, as well as the prestige to be gained by a national charter, led many state banks to convert into national institutions. In 1865 there were only 349 state banks. For several years their number continued low, but the advantage of a state charter for carrying on business in certain sections of the country later led to the organization of many new state institutions, particularly in the South and West.

The reasons for the selection of a state charter were as follows: (1) Under the National Banking Act, until 1900, no national bank could be established with a capital of less than $50,000. This was too large for small towns and the more recently settled and poorer sections of the country. (2) The restrictions imposed by the National Banking Act were more severe than those required by most states. A national bank could not loan on real estate. In the South and West land was the principal form of property which could be offered as security by the borrower and under the laws of most states was admissible as collateral for loans. Nor did state laws as a rule call for as large reserves against deposits as did the federal act. Supervision also was less strict. When the profit to be gained by taking out note circulation was no longer an inducement to seek a national charter, organizers of new banks more frequently sought state charters because of the greater liberality of state laws. (3) Naturally the southern states would not avail themselves of the privileges of the National Banking Act in the closing years of the war. Even if they had the resources, there was a disinclination, until prejudice became abated, to turn to federal authority for a charter.

State banks are to be found in nearly all states; the only exceptions are in the New England states, Maine, New Hampshire, Vermont, and Massachusetts. At the present time regulation of banks in many states is as strict as that imposed upon national banks, but inertia as well as pride in an historic past has led many of the older state banks to decline a national charter. Some of the strongest banks in the country are state banks. The service which state banks render is substantially the same as that of national banks.

6. Trust Companies.—Trust companies within the past quarter-century have assumed a considerable part of the banking business. So far as their charters are concerned, they are state institutions, but some of them in the larger cities engage in a

nationwide and international commercial banking business. Originally designed to take care of funds and estates committed to their charge, thus taking the place of the individual trustee, they are now employed to act as trustees under mortgage, registrars and transfer agents for corporations, and more recently have extended their operations into every field of banking, including commercial banking, care and investment of savings deposits, and foreign exchange.

The functions of trust companies are summed up by Herrick as follows:[1]

1. Business as trustee or agent for individuals under private agreement.
2. Probate business.
3. Investment business.
4. Real estate business.
5. Insolvency business.
6. Business as trustee or agent for corporations.
7. Business as transfer agent and registrar for corporations.
8. Corporation reorganization and financing.
9. Fidelity insurance and title insurance.
10. Safe-deposit business.
11. Savings and banking business.
12. Miscellaneous.

Not all trust companies engage in all these varieties of business, and in some states their powers are more carefully restricted than in others. Many so-called trust companies do not transact any trust business and confine their operations to strictly commercial banking, and some of the functions which formerly were regarded as distinctively the work of trust companies are now undertaken by national banks.

Because of the wide range of operations covered by a trust company, its average size as measured by capital is larger than

[1] Clay Herrick, Trust Companies (1909), p. 34.

that of the national or strictly commercial state bank. Typical trust companies are also more numerous in the metropolitan cities and in localities where large corporations need their services as agents.

7. **Savings Banks.**—Savings banks, like state banks and trust companies, are state institutions. The term "savings bank" is loosely used. A strict definition confines its application to institutions which receive deposits—usually small—invest them, and pay interest thereon to the depositors. Profit to the managers or owners of the bank is subordinated to the advantage of the depositors, who presumably lack experience or opportunity in making individual investments. Savings banks falling within this restricted definition are those established in New England and some of the eastern states, a few of the middle states, and in California and Washington on the Pacific Coast. These institutions have no capital stock and are solely for the interest of the depositors; all profits accrue to them. They are known as "mutual savings banks." To increase the protection of the depositors, the investments made by the managers of the banks are rigidly regulated by law. From this point of view Kniffin gives the following definition:

> A savings bank is a mutual institution conducted without profit to the managers, for the purpose of receiving on deposit and for safe-keeping, such sums as may be offered, limited by the law of the state, and investing the same for account of the depositors jointly and severally in such manner as shall be described by law, and paying to the depositors as interest all the earnings of the institution except the amount paid for expenses and such part as may be set aside and held in reserve as a guaranty fund for the benefit and protection of all.[2]

Such banks are not privately engaged in commercial banking, many do not accept checking accounts, and some do not discount commercial paper.

[2] W. H. Kniffin. The Savings Bank and Its Practical Work, p. 25.

The term "savings bank," however, is also applied to institutions which have a capital stock and where profit for stockholders is an underlying motive. The care of deposits even in a stock savings bank may be the main object, or the business of the bank may be extended to include all the operations which the ordinary commercial bank performs. Iowa has 926 of the 1,097 stock savings banks in the country (1919), due to the fact that the banking code of that state is more favorable to institutions of that class than it is to state banks. Such banks in that state exercise all the functions usually engaged in by state banks.

In many towns and cities school savings systems have been established. Pupils are encouraged to make small deposits which are transferred to local banks. School savings banks are thus feeders of chartered institutions. Statistics compiled by the American Bankers Association show for certain schools having an enrolment of about a million pupils in the school year 1919–1920, 463,000 depositors, with nearly $3 million deposits.[3]

Industrial savings banking has also been encouraged by some of the large manufacturing and mercantile companies. Arrangements are made by co-operation with savings banks whereby employees find convenient opportunity to open bank accounts and make deposits.

8. Number of Banks.—The following table shows the distribution in 1919 (June 30)[4] of the various kinds of banking institutions discussed or alluded to above, in different sections of the United States (excluding Hawaii, Porto Rico, and the Philippines):

This table, compiled from returns to the government, is only approximately accurate in its classification of banks other than national. Stock savings banks may be included in state banks;

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[3] Full details in regard to school savings banking may be had from the Savings Bank Division, American Bankers Association, 5 Nassau St., N. Y.

[4] Report of the Comptroller of the Currency, 1919, Vol. II, pp. 788–789.

Distribution of Banking Institutions

	Population (Thousands)	National	State	Mutual Savings	Stock Savings	Loan and Trust Companies	Private	Total
Northeastern states	7,521	407	6	400	11	289	....	1,113
Eastern states	24,878	1,646	575	197	24	587	183	3,212
Southern states	29,350	1,593	4,997	....	3	106	38	6,737
Middle states	28,635	2,142	6,051	24	930	312	780	10,239
Western states	9,740	1,418	4,480	....	4	67	14	5,983
Pacific states	7,570	576	1,076	1	125	16	2	1,796
United States	107,690	7,782	17,185	622	1,097	1,377	1,017	29,080

the distinction between a state bank and a trust company is not always clear; and the figure for private banks is far too low, as the term is loosely used in some states and it is difficult to draw the line accurately between a banker and a stock-broker or a foreign exchange dealer. The Comptroller of the Currency estimates that there are 3,500 private banks.

A little over one-fourth of the banking institutions in the entire country are organized under a federal charter. National banks are relatively more common in the eastern part of the country. Although state institutions (including trust companies and private banks) far outnumber national banks, their financial power is not greatly in excess of that of national banks.

The increase during the past half-century in the number of banks as well as in the volume of business has been great. The following figures include commercial banks (national, state, and private), savings banks, loan and trust companies, and private banks:

Growth in Number of Banks

Year	Number	Population	Ratio to Population
1870	2,457	35,558,000	1 to 15,700
1880	3,355	50,189,000	1 " 14,900
1890	7,999	63,070,000	1 " 7,800
1900	10,382	77,257,000	1 " 7,400
1910	23,095	93,403,000	1 " 4,000
1915	27,062	100,264,000	1 " 3,700
1919	29,080	107,690,000	1 " 3,700

9. Branch Banks.—Unlike banking in foreign countries, the tendency in the United States has been to decentralize the business in the hands of many independent institutions. Although several individual banks and trust companies have grown to large size, there has been, ever since the termination of the charter of

the Second United States Bank (1836), opposition to giving banks privileges which would enable them to extend their operations over a wide extent of territory.

National banks, except institutions which were formerly state banks and converted into national banking associations, are not permitted to operate domestic branch offices.[5] Under the special privilege there are 16 national banks having 60 branches. The Federal Reserve Act, however, authorizes national banks to establish branches in foreign countries. Some banks have availed themselves of this opportunity: The First National Bank of Boston has a branch in Buenos Aires, and the National City Bank of New York has more than fifty branches for the most part in Cuba and South America.

Only in a few states are state banks and trust companies permitted to have branches, and in some of these the privilege is restricted to branches only in the city in which the main office is located. In state as well as in national bank legislation there is a disposition to confine banking enterprise to local management. As national banks cannot invest in stock of other corporations, and as in many states similar laws prohibit state banks and trust companies from investing in stocks of other banks, banks as a rule in the United States, whether federal or state, are independent of each other. From time to time efforts have been made to defeat the spirit of this legislation through the ownership by a person, or group of persons, or a holding company, of a controlling interest in several banks. A few chains of country banks have been established; but this development is generally viewed with disfavor by supervising authorities and has made little headway. A more common extension of financial control is through an affiliation between a national bank and a trust company in the same city. This is done by ownership of stock by the same persons, and before the passage of the Federal Reserve Act was

[5] National banks may also acquire local branches by absorbing state institutions.

regarded as advantageous because of the wider power granted to trust companies.

In New York City certain financial leaders have large individual stockholdings in more than one bank, and undoubtedly this tends to build up a centralized power in the granting of credit. This power is sometimes accused as a money trust hostile to general business welfare and bent on self-aggrandizement. There is, however, more than one powerful financial group, and no one group has sufficient resources to control the credit operations which are massed in New York City. These groups, which are primarily identified with great railroad, mining, industrial, and trading enterprises, may be influenced to use the banking agencies under their control for the promotion of these large undertakings, and to subordinate the interests of business men operating on a small scale. This, however, is not necessarily intentional discrimination directed against any particular class and is not likely to succeed in gaining monopoly profits.

In addition to the classes of banks named above, there are also institutions organized for specialized purposes in the fields of credit and care of deposits. Here are to be noted the government postal savings system, the federal farm loan banks, joint-stock land banks, co-operative banks, and building and loan associations, credit unions, note-brokers, and discount corporations.

10. **Postal Savings System.**—Deposits in small amounts are received by post-offices, and to that extent the federal government engages in the savings bank business. Government protection to the depositor appeals in a special way to immigrants who have been in this country but a short time and are ignorant of the ordinary opportunities for investment and protection of savings, or are distrustful of banks organized for private profit. The system was inaugurated in the United States in 1911 and has shown a considerable growth; in 1919 deposits amounted to

$167 million made by 565,000 depositors. A portion of the deposits is invested in government bonds, but the larger part is redeposited in banks in towns and cities where the post-offices are located. The amount which a depositor may have at credit is limited to $2,500. Deposits bear interest at 2 per cent.[6]

11. Federal Land Banks.—Although the United States is an agricultural country, it is only recently that systematic efforts have been made through governmental encouragement and supervision to supply credit to farmers. National banks, state banks, and trust companies provide credit for commercial enterprises in the manufacture and the marketing of commodities. They are able to make short-term loans secured by grain, cotton, tobacco and staple products, and also to make advances for fattening cattle secured by chattel mortgages. But the farmer, with the increasing value of land and the need of investment in expensive machinery, has found it more and more difficult to obtain credit capital to develop his enterprise.

For many years there have been mortgage companies organized by private funds, and through these a large amount of capital has been loaned by eastern investors to western farmers on land security. Some of them have been well managed, while others have made farm loans on overvalued security and have consequently failed. Owing to the lack of information in regard to the reliability of these distant borrowers, the element of risk was large and investors in such loans insisted upon high rates of interest. When farmers in New England were able to borrow on mortgages at 6 per cent or less, those in the South and West paid as high as 8 or 9 per cent. Farmers, particularly in the West, demanded relief; and about 1908 there began a public agitation for an extension of agricultural credit. The Federal Reserve Act (1913) gave some relief by granting rediscount privileges on short-

[6] See annual letter from the Postmaster-General on operations of the postal savings system.

term agricultural and livestock paper; but no provision was made for farmers who sought funds for longer periods.

Finally, in 1916, Congress passed the Federal Farm Loan Act. This divides the United States into twelve districts in each of which there is a federal land bank. These banks make loans on first mortgage security to farmers engaged in actual cultivation of the land. Funds for the loans are obtained by the sale of bonds secured by the mortgages. As these mortgages are pooled together and are carefully selected, the security of the bond is greatly strengthened as compared with the purchase of a mortgage note secured by but a single parcel of land. The federal land bank, however, does not make the loan directly to the individual borrower, but deals with local farm loan associations. These associations are co-operative in character, each member owning stock in proportion to his borrowing, and all applications for loans must first be approved by the association before being forwarded to the federal land bank. The association also is liable by indorsement for the loan made by the bank. Under this procedure, involving intimate knowledge and mutual responsibility, it is thought that the loans are amply protected. Individual loans are limited to $10,000 and extended only on first mortgages to an amount not exceeding 50 per cent of the value of the land and 20 per cent of the value of insured improvements. The loans must be paid off in instalments, running over a period from five to forty years. The rate of interest does not exceed by more than 1 per cent the rate paid on farm loan bonds.

The capital of the land banks is provided by the United States government and the farm loan associations. The banks are jointly liable for all bonds issued and the latter are made attractive to investors by being exempt from all federal, state, and local taxes.

The federal land banks also supervise certain joint-stock land banks, which are managed by private enterprise and can make loans under more liberal conditions than can the farm loan associations.

This system of rural or agricultural credit has made a steady though slow progress. In 1920 the loans of the federal land banks amounted to $350 million, and of the joint-stock land banks to $78 million. It is estimated that nearly two-thirds of the loans have been made to liquidate existing debts of farmers and the remainder to finance new purchases of land or improvements.

12. Co-operative Banks and Building and Loan Associations. —In some parts of the country, associations have been organized to encourage savings to be applied to the building of homes. These are known by different names, as "savings and loan associations," "building associations," "building and loan associations," "co-operative loan associations," or "co-operative banks." The members contribute periodically, generally monthly, certain stated small sums to the purchase of shares; and these payments are then loaned to members, as a rule for the building of homes. Such institutions do not engage in commercial banking and are restricted in common practice to loans on real estate. In some states these institutions have played a large part in the encouragement of thrift and the making of homes.[7]

In 1918 there were 7,484 such associations in the United States, of which more than a fourth (2,124) were in Pennsylvania alone. New Jersey came next with 792, followed by Ohio with 723, and Illinois with 681. These associations had a membership of 4 millions, and assets of nearly $2 billion.

The operations of these institutions may be illustrated by a brief analysis of the reports of co-operative banks in Massachusetts. In 1919 there were 190 banks, having a total membership of 261,979. Each member subscribes for at least one share, the matured value of which is $200. Payments for these shares are made by instalments, at the rate of $1 per month. The number

[7] For details in regard to these institutions, see H. S. Rosenthal, Cyclopedia of Building, Loan and Savings Associations (fourth edition, 1920).

of shares was 2,514,763 in 1919, making an average number held by each member of 9.6. The total amount received during the year on payments for shares was $29,037,544. Loans were made to 78,590 members, or to about one in three of the total membership. The loans were secured by mortgages on real estate or by a pledge of the shares on which partial payments had been begun. The average rate of dividend earned by each share was 5.27 per cent, and the average rate of interest charged on real estate loans was 5.70, and on share loans 5.85 per cent.

The total assets of all these associations in Massachusetts was $154,880,000, of which $142,494,000 was represented by loans on real estate. Since co-operative banks were first organized in that state in 1879, 393,543 shares, amounting to $78,636,000, have reached their matured value, and this was repaid to 78,671 shareholders. These either used the proceeds to pay their loans, if borrowers, or withdrew their money; opportunity, however, is given to leave the money with the bank on deferred maturity certificates on which interest is paid.

13. Credit Unions.—People's banks, co-operative credit associations, or credit unions, have long been established in Europe and more recently in other parts of the world. In 1913 it was estimated that there were throughout the world 6,500 credit unions, having a membership of 15 millions. The object of these institutions is to organize individuals in a small community, or of kindred interest, as industrial units, factories, and neighborhood groups, so that their combined resources may be available for mutual loans.

Efforts have been made to introduce similar systems into the United States, but apparently a new country with a scattered and fluctuating population has not been congenial for the growth of credit institutions which depend in a large measure upon mutual trust and confidence. A small beginning, however, has been made, Massachusetts taking the lead in 1909, and her example has

been followed by a few other states. Under the law of New York, which is typical, seven or more persons may organize a credit union. The basis of membership is good moral character. Dealings are made with members only. Each member is required to subscribe for one share, usually $5 in value. Deposits are received and loans are made for not more than one year. A maximum rate of interest of not more than 1 per cent per month is allowed. All members share equally in privileges and management, and ratably in profits. The chief purpose is to supply small loans to members, most of whom are not in a position to obtain credit of a bank. A shareholder or member is permitted to borrow four or five times the value of his holdings, such loans being repayable in weekly instalments. By this means the seeker of credit avoids the excessive rates of interest charged by the so-called "loan shark." The credit union "does not become a substitute for the building and loan association or the remedial loan society—instead it becomes a complement of these agencies, for the basis of the security for its loans is not collateral but character."[8]

Credit unions in the United States are still in the early developmental stage. The Bank Commissioner of Massachusetts in a recent report refers to the danger that exists for these institutions, since the majority of the loans are made to those who possess little more than their health and good character. He notes, however, that the losses in making loans of over $3 million in 1920 were practically negligible and concludes that there is "much to be said in favor of credit unions."[9]

14. Morris-Plan Banks.—The Morris-plan banks are also designed to aid persons without property to borrow at moderate rates of interest. Loans are made on character to any person who wishes to borrow for a useful purpose only and who can secure two persons to indorse his note. Loans are made for one year

[8] Credit Union Primer, published by Russell Sage Foundation, 1914.

[9] Annual Report of the Bank Commissioner of Massachusetts, 1919, Part II, p. xxxiii.

and the borrower agrees to pay one-fiftieth of the total sum each week as instalments on the purchase of Morris-plan certificates, which may be converted into cash to meet the loan at maturity. For example, on a loan of $100 a borrower agrees to buy two certificates at $50 each; he pays $1 a week on each certificate, and at the end of fifty weeks he has fully paid for them. He can then cash them to repay his loan, or retain the certificates as an investment and repay his loan with other funds. Discount at the rate of 6 per cent per annum is deducted when the loan is made, and there is an investigation charge paid by the borrower of $1 for each $50 borrowed, but not to exceed $5 no matter how large the loan may be. The first of the companies was organized in 1910; in 1918 there were over 100. Approximately $100 million was loaned in the latter year.

15. Discount Companies.—In the United States discount companies, also known as "commercial credit companies," "finance companies," and "automobile banks," etc., are comparatively new.[10] In Great Britain and Germany, however, such companies have been operating for many years. There is a considerable variation in the kind of business carried on by these concerns, but in general there are two important and fairly distinct types of enterprise: (1) the financing of the distribution of automobiles, pianos, furniture, and articles sold on the instalment plan; and (2) the converting of accounts receivable into cash for merchant and manufacturer. Both of the types borrow heavily from commercial banks and are thus able to shift the burden of their loans.

The first of these two types of finance companies deals largely in paper arising from the sale of goods on the instalment plan. In the automobile field, for instance, there has been a wide demand for financial assistance from this source for the reason that

[10] Unfortunately the term "discount company" is used rather loosely and may refer to firms such as described here and also to houses which purchase commercial paper from banks and in the open market.

the regular commercial banks have looked upon the automobile as involving too great risks to warrant loans on an extensive scale to dealers and buyers. In general there are two classes of automobile finance companies: (1) the large companies which extend credits to dealers secured by chattel mortgages on their cars, and (2) the smaller concerns which specialize in making retail loans secured by the instalment notes of the individual buyers. Some of these finance companies, however, do business with both dealers and individual buyers as well as purchase accounts receivable.

16. Conversion of Receivables.—Discount companies which specialize in buying accounts receivable deal exclusively with manufacturers and merchants selling on credit. When a manufacturer or a merchant sells a bill of goods to a customer on credit, a portion of his capital is locked up in the merchandise until the customer makes remittance. Therefore the common trade practice is to offer the buyer an inducement to pay promptly and bills are usually rendered on some such terms as: "2 per cent 10 days, net 30 days." This means that the seller will take 2 cents off every dollar on the bill if the buyer will accommodate the seller by paying 20 days in advance of the net due date. That is to say, for the use of this money 20 days before due, the seller will allow a rebate of 1 per cent for each 10 days. As there are roughly 36 times 10 days in the year this means that he is willing to pay at the rate of 36 per cent per annum for the use of the money 20 days in advance of any 30-day due date. While there are many prosperous concerns that take advantage of this 2 per cent discount, there is a large proportion of buyers who take the full term of 30 days or more and the seller has to wait for his money. At this point the discount corporation steps in and, at a rate lower than what the seller offers the trade, advances him money for immediate use, thus capitalizing his accounts receivable.

Open accounts, receivables, and trade acceptances (although

the last two items are a much less important part of the business of a discount company than the first item) are purchased by initially paying 75 per cent of the face value of the account and holding in reserve 25 per cent until the entire account has been paid. These percentages are basic and are departed from in certain cases, depending upon the character of the transaction. When the entire account has been paid the discount company deducts its fees and credits the client with the balance. The sale or assignment of accounts receivable to a discount company is generally without the knowledge of the merchant's or manufacturer's customers. However, in case of financial difficulties of the merchant or manufacturer who has sold his receivables the discount company, in order to protect its interests, will notify the customers and request them to make payments direct to the discount company.

17. Interest Charge of Discount Companies.—The interest rates charged by discount companies are commonly in the neighborhood of 24 per cent per year, varying, of course, with the risk involved and the general level of interest rates. These rates are applied in some such manner as this: When an applicant for credit submits a schedule of accounts receivable he is charged ½ per cent as an initial fee and this charge is made each time he submits such a statement. He is then charged at the rate of 1 per cent per month for the term of the credit. Assuming that the accounts run 30 days, these two charges are equivalent to a rate of 18 per cent per year, but since the discount company advances to its client only 75 per cent of the face value of the accounts and charges him on the basis of 100 per cent the real rate of interest becomes 24 per cent. Where discount companies are run on a conservative basis the element of credit risk is very small. The discount company is protected by the standing of the client and the latter's customer. The contract entered into between the client and the discount company is of such a character that the

client places himself in a position of a trustee of the funds which he receives from his customer. To violate the trust relationship is a criminal act.

The question may naturally arise as to why merchants and manufacturers should find it necessary to resort to discount companies instead of commercial banks where interest rates are substantially lower. In the period of expansion during and following the war, large profits induced business houses to borrow on a very large scale. In many instances they exhausted their borrowing capacity at their banks and found it desirable to apply to discount companies for further credit. Other concerns that were not able to form proper banking connections resorted to this expensive method of obtaining credit. Although the high rates of interest charged by discount companies might seem to be prohibitive, nevertheless business concerns find it to their advantage to pay these charges under certain conditions. In a period of rising prices and large profits seemingly high interest rates can usually be absorbed by higher prices paid by the buyer. Again there are always certain business concerns which on account of having recently started or for other reasons have not been able to establish satisfactory banking connections. Particularly in times of actual or anticipated financial difficulties such concerns are willing, if necessary, to pay high interest rates for the use of funds.

18. Organization of Banks.—As already pointed out, nearly all banking business is carried on by chartered corporations. The investment of capital is subject to the terms of the charter, and experience has led legislative bodies to make special regulations which not only supervise the operations of banking institutions after they are chartered but lay down rules in regard to their organization. Capital is not free to enter the banking business under corporate direction except upon compliance with regulations which are far more strict than are found in most other forms of enterprise. This is particularly true of national banks where

the assent of the federal government through the Comptroller of the Currency is necessary. Even the states which permit incorporation under a general law rather than by special legislative charter, require as a rule the permission of some state official. It has been learned by experience that many bank failures are due to lax provisions of organization, as in the irresponsibility of the promoters, or in the non-payment of initial capital necessary to engage in the business. At no stage in a bank's life is governmental supervision now more strict than at its formation.

19. Organizing a National Bank.—To assist organizers of national banks a pamphlet of instructions based upon statute law is furnished by the Comptroller of the Currency. It advises in regard to the several steps of procedure to be taken.

In brief, an application is made by five prospective shareholders, with indorsement by persons who can certify as to the responsibility of the applicants and the desirability of establishing the new bank. Here the Comptroller exercises care in scrutinizing the speculative plans of promoters who are not immediately concerned with the banking needs of the community in which the bank is to be placed. Such applications, moreover, should not be attended with extraordinary organization expenses. The Comptroller also considers the relations of the applicants to other banks. Upon approval of the Comptroller a stock subscription list is prepared showing the list of subscribers. One-half of the capital must be paid in at once and the balance in five monthly instalments. In order to strengthen the position of the bank, the creation of a surplus by the initial stockholders at organization is recommended. A temporary certificate is then granted and articles of association are drawn up, and, if satisfactory, a permanent organization certificate is issued. Directors are elected who take oath for the performance of their duties. Upon presentation of a certificate evidencing the payment of the capital stock, authority is finally given by the Comptroller to begin business.

A charter runs for twenty years and, if desired, is as a rule renewed at the expiration of the period.

Not all applications are favorably considered. In the year ending October 31, 1919, there were 422 applications; 15 were rejected and 46 abandoned or indefinitely deferred. Rejections were based upon the fact that there were already adequate banking facilities, or that the population and business were too limited to warrant success, or that the financial standing or character of the applicant was not satisfactory.

The laws of the several states regulating the organization of state banks vary. In some states the provisions of the national bank statute are followed, particulary as to the paying-in of 50 per cent of the capital before the bank begins business. Greater elasticity prevails as to the time of payment of the balance, the period ranging from 90 days to 2 1/2 years. In a few states the entire capital must be paid in before the transaction of any business.[11]

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CHAPTER IX

THE BALANCE SHEET OF A BANK

1. The Balance Sheet Equation.—The explanation of the business operations of banks and the nature of their financial structure is best introduced by the consideration of the balance sheet of a commercial bank. This involves a brief discussion of certain fundamental aspects of accounting.

A balance sheet in accounting practice is a statement of the financial condition of a business at a given date. It is based upon a very simple but highly useful mathematical equation which may be stated in this form:

$$\text{Resources (assets)} = \text{Liabilities} + \text{Net Worth}$$

Resources represent all valuable items of property, whether material or in the form of claims against others in the possession of a business. Liabilities, strictly speaking, mean the obligations of the business to its creditors.

As a matter of accounting and financial practice, the term "liabilities," as used in the balance sheet or statement of assets and liabilities, refers both to obligations of a business to its creditors, such as individual depositors, other banks, and note-holders, and to the net worth or residual claim of the stockholders or proprietors. In the case of a typical commercial bank, net worth is composed of the items, capital stock, surplus, and undivided profits. The main sources from which accretions to net worth are derived are contributions by the stockholders and earnings from operations. It is the practice in banking, as in other lines of business, to carry the capital stock item on the balance sheet at the par value of the outstanding stock. No change is made in this account except when new stock is sold or a part of the old

stock is canceled, or to record an increase of capital stock through a declaration of a stock dividend. Banks, however, rarely declare stock dividends. Necessarily changes in the net worth as a result of operations will be reflected in the items, undivided profits and surplus.

Surplus and undivided profits in themselves are nothing tangible, such as a cash fund or securities. But these accounts together with capital stock, deposits, and all other items appearing under liabilities, are offset by the various items included under resources, as, for example, loans, bonds, etc. That no causal relation exists between cash and surplus may be indicated by the fact that a bank's cash may be dwindling while its surplus is increasing. Surplus and undivided profits differ from capital or capital stock by not being represented by stock certificates, although the size of the surplus and undivided profits tends to be reflected in the market price of the capital stock.

2. Typical Banking Transactions.—Upon organization of a bank with capital of $100,000, which is fully paid in by the stockholders, the balance sheet will read:

A

Resources		*Liabilities*	
Cash	$100,000	Capital	$100,000

The bank must then secure a place of business. This it may do either by renting an office, or by purchasing and equipping a place of business. If it adopts the second method it will own among its resources so much real restate. The bank thus invests $15,000 in a business house, and the balance sheet will read:

B

Resources		*Liabilities*	
Banking house, furniture, and fixtures	$15,000	Capital	$100,000
Cash	85,000		
	$100,000		$100,000

The bank is now ready to do business, the most important forms of which are to make loans and to receive deposits. Loans, or the advance of credit, may be made in a variety of ways, which will be more fully described later. In general they may be divided into two classes: (1) discounts, and (2) straight loans. The only difference between a discount and a straight loan is one of form. In the former the principal and interest are merged in one sum for convenience in negotiation; in the latter the principal and interest are expressed separately, with the expectation that the note will be held by the lender to maturity. While discounts are entered by banks at their full amount, they are really carried, as shown in the examples, at their true value—the original principal (discounted sum) and accrued interest (earned discount)—by reason of the offsetting item, "Unearned discount," among the liabilities. In other words, discounts are handled precisely as straight loans are.

The bank first loans $10,000 in cash for 3 months on which it charges 7 per cent interest, the interest to be paid when the note falls due. The statement will then read:

C

Resources		*Liabilities*	
Loans	$10,000	Capital	$100,000
Banking house, furniture, and fixtures	15,000		
Cash	75,000		
	$100,000		$100,000

Depositors open accounts and leave $5,000 in cash. The bank has assumed a new liability and the balance sheet is as follows:

D

Resources		*Liabilities*	
Loans	$10,000	Capital	$100,000
Banking house, furniture, and fixtures	15,000	Deposits	5,000
Cash	80,000		
	$105,000		$105,000

The bank makes a further loan of $9,000 for 2 months at 6 per cent, discounting, however, the borrower's note. The interest on $9,000 for 2 months at 6 per cent is $90.[1] The borrower, who is under obligation to pay back $9,000, receives in cash $8,910. The item of $90 is carried on the liabilities side of the statement under some such title as "Interest and discount collected or credited in advance of maturity and not earned." Beginning as of January 1, 1919, the Comptroller of the Currency required all national banks to carry their earnings on a basis classified as to "Discount collected and unearned" (liabilities) and "Interest accrued but uncollected" (assets). Previous to that date it was the general practice for national banks to include discounts collected in advance immediately in the undivided profits account. State banks still follow this practice commonly.

E[2]

Resources		*Liabilities*	
Loans and discounts.....	$19,000	Capital.....	$100,000
Banking house, furniture, and fixtures.....	15,000	Interest and discount collected or credited in advance of maturity and not earned (approximate)	90
Cash.....	71,090	Deposits.....	5,000
	$105,090		$105,090

In subsequent operations on the same day the bank invests $6,000 of its cash in stocks and bonds, and deposits $15,000 with a bank in New York City. Each of these operations decreases the cash and the statement reads:

[1] It is the general practice in American banking to compute interest and discount on the basis of 30 days to a month and 360 days to a year.

[2] It is assumed that balance sheets E-J inclusive are for the same day. If, instead, it were assumed that a number of days had elapsed between the several transactions two slight changes in the statements would be necessary. On the liabilities side the item, "Interest and discount collected or credited in advance of maturity, but not earned (approximate)" would be gradually transferred to the undivided profits account on the basis of the time actually elapsed. Similarly, on the assets side of the statement there would appear an item, "Interest earned but not collected (approximate) on notes and bills receivable" which would be offset under liabilities by an increase in undivided profits of the same amount.

In the above example the term "approximate" may seem inappropriate, as the interest computed is the exact sum. However, in actual practice this would rarely happen and the title consequently has not been changed.

F

Resources		*Liabilities*	
Loans and discounts	$19,000	Capital	$100,000
Banking house, furniture, and fixtures	15,000	Interest and discount collected or credited in advance of maturity and not earned (approximate)	90
Securities, stocks, and bonds	6,000	Deposits	5,000
Due from other banks	15,000		
Cash	50,090		
	$105,090		$105,090

Again, on the same day the bank makes a loan of $18,000 for 2 months at 6 per cent, the borrower agreeing informally that he will not withdraw all the money at once but will allow part of it to remain on deposit, to be withdrawn week by week as occasion may demand. The note for the whole amount of the loan is discounted and the interest amounting to $180 is deducted in advance. When the loan is made the borrower takes $5,000 in cash and leaves the balance to his credit ($18,000–$180–$5,000) on deposit. This increases the deposit account by $12,820. The new statement is as follows:

G

Resources		*Liabilities*	
Loans and discounts	$37,000	Capital	$100,000
Banking house, furniture, and fixtures	15,000	Interest and discount collected or credited in advance of maturity but not earned (approximate)	270
Securities, stocks, and bonds	6,000	Deposits	17,820
Due from other banks	15,000		
Cash	45,090		
	$118,090		$118,090

A depositor next asks for a New York draft of $500. The bank draws a draft on the New York bank with which it has a deposit, and when this is presented for payment the statement reads (if no charge is made for drawing the draft):

H

Resources		*Liabilities*	
Loans and discounts	$37,000	Capital	$100,000
Banking house, furniture, and fixtures	15,000	Interest and discount collected or credited in advance of maturity but not earned (approximate)	270
Securities, stocks, and bonds	6,000		
Due from other banks	14,500		
Cash	45,090	Deposits	17,320
	$117,590		$117,590

The bank receives from its depositors $3,000 in checks drawn on other banks and $1,200 in cash. Deposits will be increased $4,200, and under resources will appear "checks" or "exchanges for clearing house." The balance sheet reads:

I

Resources		*Liabilities*	
Loans and discounts	$37,000	Capital	$100,000
Banking house, furniture, and fixtures	15,000	Interest and discount collected or credited in advance of maturity but not earned (approximate)	270
Securities, stocks, and bonds	6,000		
Due from other banks	14,500		
Exchanges for clearing house	3,000	Deposits	21,520
Cash	46,290		
	$121,790		$121,790

Again, the bank certifies a check for $1,000 for a customer; the deposit account is reduced by that amount, and a new liability, "certified checks," is introduced, making the statement:

J

Resources		*Liabilities*	
Loans and discounts	$37,000	Capital	$100,000
Banking house, furniture, fixtures	15,000	Interest and discount collected or credited in advance of maturity but not earned (approximate)	270
Securities, stocks, and bonds	6,000		
Due from other banks	14,500		
Exchanges for clearing house	3,000	Deposits	20,520
		Certified checks	1,000
Cash	46,290		
	$121,790		$121,790

Instead of certifying a customer's check, the bank may issue a cashier's check. If this be paid for with cash instead of with a check on the bank, the deposits item will remain unchanged, and cash on the resources side will be accordingly increased.

3. Adjustment Accounts.—The bank thus continues its operations—making loans, foreclosing on property when loans are not paid, investing in securities, depositing in other banks, receiving deposits from other banks and from individuals, enlarging its business quarters, receiving checks from depositors, and obtaining payment thereon from the banks on which they are drawn. It is also necessary as time passes to make adjustments to take care of interest and discount actually earned. To be more exact, the bank transfers daily a portion of the item, "Interest and discount collected or credited in advance of maturity but not earned (approximate)," to the undivided profits account. In the same way there is set up on the assets side "Interest earned but not collected (approximate)" on notes and bills receivable, which item is offset on the liabilities side by increasing undivided profits the same amount. As a result of such operations the balance sheet finally reads:

K

Resources		*Liabilities*	
Loans and discounts	$1,031,786.72	Capital	$100,000.00
Securities, stocks, and bonds	197,000.00	Undivided profits	15,678.00
Interest earned but not collected (approximate) on notes and bills receivable	1,955.86	Interest and discount collected or credited in advance of maturity but not earned (approximate)	1,721.25
Banking house, furniture, and fixtures	54,000.00	Due to banks	63,677.79
Other real estate	18,314.14	Deposits	1,446,912.65
Due from banks	258,296.23	Certified checks	2,729.51
Exchanges for clearing house	1,476.78		
Cash	67,889.47		
	$1,630,719.20		$1,630,719.20

4. Surplus Account and Dividend Payment.—The bank now determines to set aside $10,000 for a surplus. This will be taken from undivided profits. A new item of surplus, $10,000, will appear under liabilities. In illustration of the significance of surplus, the effect on the statement of the withdrawal of $10,000 in cash by depositors may be considered. The withdrawal would reduce cash on the assets side and individual deposits on the liabilities side by the same amount; surplus would thus remain unchanged.

The directors also declare a semiannual dividend of 3 per cent on the capital. This will further reduce the undivided profits by $3,000. Undivided profits will then read $2,678. When the dividend is paid, cash will be diminished $3,000. If, however, the stockholders deposit the dividend checks with the bank, the cash item will remain undisturbed, and the deposit account will be increased. If the stockholder does not present his dividend check for payment or transfer it to his deposit account, a new item under liabilities may appear, "dividends unpaid." When payments are made for current expenses, as for salaries, stationery, postage and express charges, the cash account, on the one side, and the undivided profits account, on the other, will be decreased by that amount.[3]

Again, the bank may subdivide its cash into the different kinds of money which it holds and it also may classify its deposits, distinguishing between deposits payable on demand and those payable on time.

As a result of setting aside $10,000 from undivided profits into surplus, the declaration and payment of a cash dividend, and also a more detailed classification of resources and liabilities, the balance sheet will appear as shown on the following page:

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[3] Current expenses do not affect undivided profits directly. They are debited to gross profits before net profits are credited to the undivided profits account.

L

Resources		*Liabilities*	
Loans and discounts	$1,031,786.72	Capital	$100,000.00
Securities, stocks, and bonds	197,000.00	Surplus	10,000.00
Interest earned but not collected (approximate) on notes and bills receivable	1,955.86	Undivided profits	2,678.00
Banking house, furniture, and fixtures	54,000.00	Interest and discount collected or credited in advance of maturity but not earned (approximate)	1,721.25
Other real estate	18,314.14	Due to banks	63,677.79
Due from banks	258,296.23	Individual deposits subject to check	1,215,435.66
Exchanges for clearing house	1,476.78	Demand certificates of deposit	130,000.00
Cash:		Time certificates of deposit	101,476.99
Gold coin	2,459.00	Certified checks	2,729.51
Silver coin	4,500.00		
Nickels and cents	1,010.47		
National bank notes	19,500.00		
United States notes	37,420.00		
	$1,627,719.20		$1,627,719.20

In a condensed statement the last four items under liabilities are frequently grouped under a heading of "deposits."

5. Other Items.—Other items may appear on the balance sheet, as, for example, "overdrafts" under resources. When a depositor overdraws his account, the amount is for the time being considered in the same light as a loan by the bank. Steps are taken, of course, to secure its payment and as a rule overdrafts are quickly liquidated. If finally no settlement can be secured, it will be marked off on the resources side, and an equal amount will be deducted from undivided profits, as a loss.

Checks are not all presented through the clearing house, and a classification is, therefore, made between: (1) exchanges for clearing house; (2) checks on other banks in this city; and (3) country checks, that is, checks on out-of-town banks. Securities are further distinguished as stocks, bonds, mortgages, public

securities, etc.; and if the bank be a member of the federal reserve system it will own stock of the federal reserve bank, which will be separately listed.

Interest which has accumulated on securities but is not yet due may be entered as "accrued interest," a resource not yet converted into cash. If so, the amount will be offset under liabilities in the "undivided profits."

"Customers' liability under letters of credit" on the resources side and "Letters of credit and travelers' checks" on the liabilities side are common items in the balance sheet of a large commercial bank. For example, a bank issues a commercial letter of credit, thereby agreeing to accept drafts. To that extent it has incurred an obligation and the item appears under liabilities. The customer, however, is under obligation to furnish the bank with funds as agreed upon, and therefore the bank has a corresponding resource. Travelers' checks outstanding are liabilities which the bank will be required to honor upon presentment.

A bank's liability on a commercial letter of credit precedes that on acceptances and is gradually supplanted by the latter. Against both is the asset, customers' liability, first on the letter of credit and then on acceptances, until customers reimburse the bank with cash.

The changes which take place in a bank's balance sheet through dealing in acceptances may be illustrated by the following operations:

1. The bank executes $100,000 of acceptances:

Resources		*Liabilities*	
Customers' liability account of acceptances executed by the bank	+ $100,000	Acceptances executed for customers.....	+ $100,000

2. If the bank discounts its own acceptances of $10,000 and pays its customer in cash discount amounting to $50, the changes will be as follows:

Resources		*Liabilities*	
Customers' liability account of acceptances of this bank purchased or discounted	+ $10,000	Interest and discount collected or credited in advance of maturity but not earned	+ $50
Cash	− 9,950	Acceptances of this bank purchased or discounted	− 10,000
Customers' liability account of acceptances executed by this bank	− 10,000		

It will be observed by referring to the balance sheet of a bank dealing in operations concerned with letters of credit and acceptances that the corresponding entries on the two sides are nearly equal in amount. The reason why the respective entries do not exactly agree is that in some instances the letters of credit and travelers' checks were paid for when originally issued, and consequently the bank has no further resource in these transactions.

In the case of acceptances the bank's customer in whose favor the credit has been opened and to whom the bank would look for funds at the maturity of the acceptance not infrequently meets the obligation before the final date of maturity, in which case he is granted a discount for prepayment. The original bill may be still out and consequently is a liability which will eventually have to be met.

6. Issue of Bank Notes.—In the balance sheet thus far presented the item of bank notes issued by a bank has not yet appeared as a liability. Such notes will be issued to make a loan, to pay depositors, to purchase securities, or for other investment. If for loans or investments, there will be an increase in resources; if paid out to meet current expenses, there will be an equal decrease in undivided profits; if paid to depositors, the issue of notes and decrease in deposits will offset each other. The issue of national bank notes by a national bank is accompanied by an investment in United States bonds and until the passage of the act of 1913, by the creation of a 5 per cent redemption fund deposited

with the United States Treasury. The bonds and the redemption fund alike appear on the resources side.

7. Rediscounts.—With the establishment of the federal reserve system and the growing practice of rediscounting of commercial paper by member banks at the federal reserve banks, the item, "rediscounts, federal reserve bank," frequently appears on the liability side. If this be done, "lawful reserve" on the resources side will be increased.[4] Some banks omit the item among liabilities and reduce the loans by the amount of "rediscounts," etc.

8. Statement of a National Bank.—In the statements periodically submitted by a national bank to the Comptroller of the Currency, the resources and liabilities are listed in great detail. Under resources there are more than 40 items, and under liabilities nearly as many. More concisely the resources may be classified as: (1) loans, (2) securities, (3) bank premises, (4) cash, (5) credit instruments in process of liquidation through the clearing house or other agency, and (6) deposits in other banks. The principal liabilities may be also classified as: (1) to stockholders, (2) to depositors, and (3) to noteholders, if the bank issues notes.

For purposes of illustration, the balance sheet of a national bank in a city of approximately 25,000 inhabitants is presented. The numbers and letters which appear on the right and left of the statement refer to the numbers of the items on the standardized form which is filled out on the Report of Condition to the Comptroller of the Currency. As this bank is a small institution, it does not carry all the items on the detailed form, but the principal resources and liabilities are included, and the statement is applicable to all national banks outside of the metropolitan cities.

[4] The entries which banks usually make in the case of rediscounts, properly so-called (not reserve bank advances), are as follows: At time of rediscount, "Rediscounts, federal reserve bank" is credited for face amount of the rediscounts to show contingent liability; the offsetting entry is twofold: a debit to the unearned discount account for amount of the discount, and a debit to "Lawful reserve" for amount of proceeds. Upon maturity of the items, "Rediscounts, federal reserve bank," is debited to cancel "Contingent liability and loans," which, so far, remained unchanged. In the balance sheet the rediscounts may appear as a deduction from "loans" instead of as an item among liabilities.

Victory National Bank

Report of Condition at the Close of Business on December 29, 1921

Resources

1	a	Loans and discounts, including rediscounts	$1,895,476.12		
		Deduct:			
	d	Notes and bills rediscounted with federal reserve bank (other than bank acceptances sold)	98,400.00	$1,797,076.12	1
2		Overdrafts, unsecured		324.22	2
4		United States government securities owned:			
	a	Deposited to secure circulation (United States bonds par value)	$200,000.00		
	c	Pledged to secure postal savings deposits (par value)	1,000.00		
	d	Pledged as collateral for state or other deposits or bills payable	205,860.93		
	f	Owned and unpledged	50,488.40		
	h	War savings certificates and thrift stamps actually owned	16.92		
		Total United States government securities		457,366.25	4
5		Other bonds, securities, etc.:			
	a	Bonds (other than United States bonds) pledged to secure United States deposits	$8,982.50		
	b	Bonds (other than United States bonds) pledged to secure postal savings deposits	12,431.30		
	e	Securities other than United States bonds (not including stocks) owned and unpledged	10,960.00		
		Total bonds, securities, etc., other than United States		32,373.80	5
7		Stock of federal reserve bank (50 per cent of subscription)		13,500.00	7
8	a	Value of banking house owned and unencumbered		92,927.56	8
10		Real estate owned other than banking house		11,100.00	10
11		Lawful reserve with federal reserve bank		168,016.50	11

13		Cash in vault and net amounts due from national banks:			
	a	Cash	$44,154.58		
	b	Net amounts due from national banks	39,713.17	83,867.75	13
14		Net amounts due from banks, bankers, and trust companies in United States (other than in items 11 or 13)		1,838.93	14
16		Checks on other banks in the same city or town as reporting bank		1,648.91	16
17		Checks on banks located outside of city or town of reporting bank and other cash items:			
	c	Internal revenue stamps	$200.00		
	d	Other cash items:			
		Our checks....(a) $60,944.83			
		Cash items....(b) 12,622.17	73,567.00	73,767.00	17
18		Redemption fund with United States Treasurer		10,000.00	18
19		Interest earned but not collected (approximate) on notes and bills receivable not past due		4,500.00	19
				$2,748,307.04	

Liabilities

21		Capital stock paid in		$200,000.00	21
22		Surplus fund		250,000.00	22
23	a	Undivided profits	$195,718.80		
	b	*Less:* Current expenses, interest, and taxes paid	14,154.30	181,564.50	23
24		Interest and discount collected or credited in advance of maturity and not earned (approximate)		6,500.00	24
27		Circulating notes outstanding		192,697.50	27
28		Amount due to federal reserve bank (deferred credits)		24,829.81	28
30		Net amounts due to banks, bankers, and trust companies in the United States and foreign countries (other than included in item 28)		62,829.70	30
31		Certified checks outstanding		16,482.26	31
		Total of items 28, 30, and 31....	$104,141.77		
		Demand deposits (other than bank deposits) subject to reserve (deposits payable within 30 days):			
33		Individual deposits subject to check		1,546,145.47	33
34		Certificates of deposit due in less than 30 days (other than for money borrowed)		78,846.55	34

37	Dividends unpaid		18.00	37
	Total (items 33, 34, 37)	$1,625,010.02		
	Time deposits subject to reserve (payable after 30 days, or subject to 30 days or more notice, and postal savings):			
41	Postal savings deposits		7,893.25	41
48	Bills payable with federal reserve bank		180,500.00	48
	Total (items 41, 48)	$188,393.25		
	Total		$2,748,307.04	
54 a	Liabilities for rediscounts, with federal reserve bank (See item 1, d)		98,400.00	54

This detailed statement may be conveniently condensed to show the principal classes of resources and liabilities:

Resources

	Amount
1. Loans (including overdrafts)	$1,797,400.34
2. Securities	503,240.05
3. Banking house and real estate	104,027.56
4. Cash, deposits in other banks, reserve, checks on other banks, redemption fund	339,139.09
5. Adjustment account, interest earned but not collected	4,500.00
	$2,748,307.04

Liabilities

1. To stockholders, including capital, surplus, and undivided profits	$631,564.50
2. To depositors, individual and banks, bills payable	1,917,545.04
3. To noteholders	192,697.50
4. Adjustment account, interest collected but not earned	6,500.00
	$2,748,307.04

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NOTE: See Appendix A, Problem 17; Appendix B, Problem 46.

CHAPTER X

FUNDS BELONGING TO STOCKHOLDERS

1. Capital Stock.—In analyzing the operations and services of a commercial bank there is an advantage in considering first the items which represent the sources of financial power. As indicated in the previous chapter, the working energy of a national bank is derived from three principal sources; stockholders, depositors, and the use of the bank's credit in the form of bank notes. This chapter will consider the funds belonging to the shareholders.

A bank begins business upon the capital subscribed by its stockholders. Federal law carefully prescribes the minimum amount for the operation of a national bank, and the several states likewise have regulations of this nature for state institutions. In the case of national banks the minimum amount is based upon the population of the place in which the bank is located. In towns of 3,000 or less the capital must be at least $25,000; in localities with a population of 3,000 to 6,000, $50,000; with a population of 6,000 to 50,000, $100,000; and in cities over 50,000, $200,000. One-half of the capital must be paid in before the bank begins business, and the remainder within six months. Unlike corporations in nearly all other lines of business, the capital of a bank represents the paying in of a prescribed amount of actual cash as a condition for operation. The stock is issued in shares of $100 par value. An exception, however, is permitted in the case of state banks which, when converted into national banks, had a different par. But few banks are in this class.

2. Minimum Capitalization of a National Bank.—Until 1900 no national bank could be organized with a capital of less than $50,000, but in that year provision was made for the smaller

capitalization of $25,000. The object of the earlier limitation was to prevent so far as possible the establishment of feeble organizations unequal to the needs of the community in which the banks were located. This insistence of a minimum of $50,000, however, checked unduly the creation of national banks in small towns, particularly in the South and West, where there was not sufficient business to justify the operation of a banking institution with so large a capital, but sufficient to warrant the successful operation of a smaller bank; consequently those who desired to engage in the banking business turned to a state charter with its less stringent rules as to capitalization.

The change in 1900 from $50,000 to $25,000 was welcomed, as is shown by the fact that between that year and 1920 more than half (3,440) of the new national banking charters were granted to institutions with a capital of but $25,000 each. Most of these were in the thinly populated sections of the South and West; only 22 were in New England.

3. Classification of National Banks According to Capital.—National banks were grouped (1919) as to their capital as follows:[1]

Less than $50,000	2,612
$50,000, but less than $100,000	2,415
$100,000	1,364
Over $100,000, but less than $250,000	718
$250,000, but less than $500,000	328
$500,000, but less than $1,000,000	190
$1,000,000, but less than $5,000,000	171
$5,000,000 and over	23
Total	7,821

Two-thirds of all the national banks have but a modest capitalization—less than $100,000. Such a system of a large number of independent units of capitalization is to be contrasted with that of a small number of large banks with branches as exists, for

[1] Report of Comptroller of Currency, 1919, Vol. II, p. 38.

example, in Canada and in European countries. As a national bank cannot loan to an individual customer more than 10 per cent of its capital and surplus, it is obvious that a bank with a small capital will find itself restricted in providing for the needs of large concerns.

During the past twenty years, in order to meet the needs of expanding business in large cities, there has been a marked tendency to enlarge the capitalization of banks already established rather than to organize new institutions. Consequently there have been consolidations and mergers of existing banks, resulting in increased capitalization of single institutions. The banks with a capitalization of $5 million and over were located in 1919 as follows:

Boston	2	Chicago	2
New York City	9	St. Louis	2
Philadelphia	2	Milwaukee	1
Cincinnati	1	Minneapolis	1
Detroit	1	San Francisco	2

There are two banks in New York City which each have a capital of $25 million. The largest capitalization in Boston is $10 million; in Chicago, $21.5 million, and in St. Louis, $10 million.

4. Capital of State Banks.—State banks in New England and the more eastern middle states are required by state laws to have a capital of at least $25,000. In most of the other states a lower capitalization is permitted;[2] in twelve states only $10,000 is required in the smaller towns; in North Carolina, $5,000; and in Tennessee, $7,500.[3] Requirements as to capital stock of trust companies also vary in different states, and in some, gradations are made according to the population of the locality. In Massachusetts, for example, the minimum is $100,000 for cities not greater than 100,000 population; for others, not less than $200,000.[4]

[2] G. E. Barnett, State Banks and Trust Companies, pp. 39–40.

[3] See Provisions of State Laws relating to Capital Stock and Surplus of State Banks and Trust Companies, published by the Federal Reserve Board, June 1920.

[4] C. Herrick, Trust Companies, pp. 75–76.

5. Liability of Stockholders.—Shareholders of national banks and of most state banks are liable to the extent of the amount of their stock held in addition to the amount invested in such shares. This is known as "double" liability. Here again is seen the effort to increase the responsibility of those engaging in the banking business under the privileges granted by the government. If there are insolvent stockholders, the solvent shareholders are not required to contribute more than their proportion in order to make good the deficiency.

6. Surplus.—Closely allied to capital stock in furnishing financial support is surplus. Surplus is created either by original subscriptions of stockholders in addition to that which they put in as capital, or is built up out of earnings which are not distributed in dividends. The object of a surplus is to protect the bank against unexpected losses. From a business point of view surplus exercises the same function as capital. Legally, however, there is an important difference: Although stockholders in national and in many state banks are subject to a double liability on the capital stock which they may hold, they are not subject to assessment upon the surplus.

By law a national bank must create a surplus of 20 per cent, and cannot distribute any dividends until the surplus amounts to 10 per cent of capital. The Victory National Bank, whose balance sheet is given on pages 138–140, has a surplus larger than its capital and thus far in excess of the legal requirement. As this bank is an old institution, in all probability the surplus has been accumulated out of past earnings or profits and has been retained by the bank in order to strengthen its net worth. Some new banks create a surplus by subscription before beginning business, for the sooner the surplus is created the freer the bank is to distribute its earnings. A large surplus strengthens the working capital and tends to create public confidence. On the other hand, banks, because of the non-assessment of stockholders according

to surplus, are open to the suspicion of evading responsibility by building up surplus and keeping capital small. In some instances capital is allowed to remain low because of state laws which tax corporations according to their capital.

In 1870 the surplus of national banks was but a little above the statutory requirements, 22 per cent for all banks. The first marked change to swell the surplus took place between 1880 and 1890, and was due largely to banks in New York City, which allowed their capital to decrease 4 per cent and doubled their surplus. Subsequently banks in other reserve cities followed the policy of New York City. The following table shows the changes in surplus and capital stock for all national banks:

CHANGE IN SURPLUS AND CAPITAL STOCK OF NATIONAL BANKS

Years	Per Cent of Increase of Surplus	Per Cent of Increase of Capital
1871–1880	22	2
1880–1890	78	43
1890–1900	21	3
1900–1910	147	59
1871–1919	561	125

During the forty years 1871–1910, surplus increased more than sixfold, while capital stock a little more than doubled.

Many states follow the national act in requiring a surplus of 20 per cent. Kansas, Oklahoma, and Texas go farther in demanding the accumulation of 50 per cent of capital stock. In some states the creation of a surplus is left optional with the bank.[5] The same variation is found in the state statutory requirements for trust companies. As Herrick points out, however:

> The accumulation of a surplus fund[6] is a proceeding that trust companies in most communities adopt as a matter of course,

[5] G. E. Barnett, State Banks and Trust Companies, pp. 59–60.

[6] It is to be noted that this is not a separate fund of money; see Appendix A, Problem 18.

being impelled thereto by the manifest advantages of such a step as a measure of safety and as a means of gaining business in competition with other companies having surplus funds.

7. **Undivided Profits.**—Undivided profits represents earnings from which current dividends may be drawn, but many banking institutions which are seeking to add to their surplus permit this item to accumulate in excess of the dividend requirements. A considerable part of undivided profits, therefore, may be regarded as capital investment not yet formally dedicated to that purpose. This item together with surplus, if examined over a period of years, is an index of the success of the bank. A well-managed bank rarely distributes all of its undivided profits in dividends, but will retain a portion, both to increase its net worth and as a protection against possible losses.

8. **Comparison of Capital, Surplus, and Undivided Profits.**—The total amount of capital, surplus, and undivided profits in all banking institutions in the United States in 1919 was as follows:

CAPITAL, SURPLUS, AND UNDIVIDED PROFITS OF ALL BANKING INSTITUTIONS

(In millions)

	Number of Banks	Capital	Surplus	Undivided Profits	Total
National banks	7,785	$1,118.6	$872.2	$372.6	$2,363.4
State banks	17,225	785.7	440.8	164.1	1,390.6
Mutual savings banks	622	.....	333.4	65.0	398.4
Stock savings banks	1,097	62.7	34.7	13.1	110.5
Loan and trust companies	1,377	450.4	491.9	96.8	1,039.1
Private banks	1,017	19.8	8.9	4.7	33.4
Total	29,123	$2,437.2	$2,181.9	$716.3	$5,335.4

It will be observed that surplus and undivided profits combined amount to more than the capital. The total liabilities of all these banking institutions amounted to over $47 billion, and the liability to the stockholders constituted about one-ninth of this. In the balance sheet of the Victory National Bank (pages 138–140), which has been selected as an illustration of an individual bank, these items amount to $631,560, or nearly one-fourth of the total liabilities.

In recent years the contribution of stockholders (paid-in capital, surplus, and undivided profits) has not kept pace with the expansion of banking business as seen in loans and deposits. The largest liability of a bank is to its depositors. For many years there has been a decline in the ratio of capital (including surplus and undivided profits) to deposits, and some believe that the amount of capital should be regulated by its deposits as well as by rules of population. This subject will receive further discussion in the chapter on deposits.

9. The Banking Business as Measured by Capital.—An interesting study might be made of the part which banking plays in our economic life as compared with the business of transportation or of manufactures, by taking as a measure the amount of capital invested. Unfortunately the statistics of capitalization of railways and of manufacturing establishments are not comparable, for the capital as reported in these industries has not necessarily been paid in. In many instances such capital is fictitious, representing simply good-will, franchises, or inflated valuations The capital of banks, however, represents actual money which has been paid into this form of enterprise. Taking the figures as they stand, in 1915 the total capital (including surplus and undivided profits) of all kinds of banks, amounted to $4,538.7 million, and of railroads (1914), including bonds, to $20,247 million, or omitting bonds, to $8,681 million. In manufactures in 1909 the capital amounted to $18,428 million.

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CHAPTER XI

DEPOSITS

1. Source of Deposits.—Deposits of cash or credit instruments, which are claims for cash, are made by individuals, firms, and corporations, other banks, and by governmental bodies. The balance sheet of a bank generally expresses the deposits of other banks under the term, "due to banks," and lists the deposits of the federal government under "United States deposits." Deposits constitute by far the larger part of a bank's liabilities. In general the relation between the bank and its depositors is not one of trusteeship but rather that of debtor and creditor.

Deposits arise in two ways: first, from the deposits of cash or credit instruments, as checks, drafts, and bills of exchange; and, second, from loans which the bank makes to the individual and which are left on deposit to his credit. The creation of deposits out of loans may be illustrated as follows: A borrower wishes to secure a loan at a bank; the latter can grant this either in cash or with a promise to pay cash or its equivalent on demand. Obviously the bank's power to pay actual cash is limited, and consequently it must resort to such substitutes for cash as will satisfactorily serve the borrower in the conduct of his business. If this be done the form of the loan is immaterial. The loan may be made by giving the borrower a deposit credit, and the borrower, being in possession of a deposit account, can then draw checks upon it. In so far as the borrower's creditors are willing to accept checks in place of cash, the loan renders as much service as if actual cash were advanced.

2. Nature of Bank Loan.—In saying that loans make deposits it must not be assumed that wealth is created by the mere process

of loaning. There is in existence under present business procedure an enormous volume of outstanding credit accounts and other forms of obligations between individuals. By loaning upon these claims the banks convert them into a new form of credit or deposits, so as to make them more readily acceptable and facilitate the transaction of commerce and business. Credit is back of the loan. The bank converts one form of promise to pay into another form of obligation. For example, John Jones in the course of his business has a claim against Samuel Smith. Jones now wishes to buy material from Andrew Adams; he holds Smith's promise and tenders it to Adams in payment for the material; Adams, however, is averse to such payment; he does not know Smith and declines to sell his goods for a promise which he is not in a position to appraise and the use of which will not be available in his own business. The bank undertakes this service. Jones presents the claim against Smith at the bank and on the strength of this applies for a loan. The bank, even if it does not know Smith, is familiar with the business characteristics and integrity of Jones, who must hold himself liable if Smith does not fulfil his obligation. The bank consequently makes the loan. Jones is then in possession of a deposit account at the bank and can draw checks upon this account. Adams from whom he buys the material has now no hesitation in receiving a check drawn upon the bank.

The bank may even go farther and grant a loan simply on the promise of the borrower, unsupported by any collateral or claims which the borrower might have against others. In this case as well as in the former, deposits represent credits created in advance of liquidation or settlement of outstanding indebtedness.

3. Bulk of Deposits Arising from Loans.—Cash itself plays but a small part in establishing deposit accounts in a commercial bank—less than a tenth according to tests which the office of the Comptroller of the Currency has made from time to time.

The deposits of commercial banks are largely credits and not cash. As the author of "The Practical Work of a Bank" observes: "So many people have the idea that the bank is a custodian—bailee—of the funds. They speak of having so much money in the bank, forgetting that they have nothing in the bank, but do have a credit on its books, and what they hold is an 'account payable' of the bank."[1] It is, however, impossible to determine accurately what proportion of the total deposits of a commercial bank falls in each of the two classes noted above, but the bulk of deposits arises from loans.

The close dependency of deposits (excluding bank deposits) to loans is illustrated by comparing the amounts of each at different dates for all national banks:[2]

LOANS AND DEPOSITS OF NATIONAL BANKS

(In millions)

	Loans	Deposits
1890	$ 1,970.0	$ 1,594
1900	2,687.0	2,602
1910	5,467.0	5,196
1919	11,010.2	12,940

This enormous increase in deposits, doubling in recent decades, is not due to an increase in cash entrusted to the care of the banks, but to the increase in the advances of credits by banks. The figures are evidence of the greater use of credit in carrying on the business of the country.

The ability of the bank to meet the liability incurred by the deposit depends not merely upon the cash reserve which it holds, but to a much greater extent upon the soundness of its loans. The

[1] W. H. Kniffin, The Practical Work of a Bank, p. 62.

[2] Report of Comptroller of Currency, 1919, Vol. II, pp. 754–756.

deposit liability as a whole can be met only by the prompt payment of the loans. A loan, indeed, can be renewed and the deposit continued, but if this practice be indulged in to any considerable extent the loan resources may be an empty asset and the deposit liability a charge which cannot be met. The relation of deposits to loans and reserves is discussed more fully in a subsequent chapter.

4. **Deposit Currency.**—The volume of deposits which is subject to transfer by check and other credit instruments furnishes what is called "deposit currency." To a large extent it performs the work of money as a medium of exchange. This use of deposits as currency is clearly described by Dunbar:

> The bank deposit, circulated by means of checks, is the most convenient medium of payment yet devised. A stroke of the pen transfers it in whatever amount is needed for the largest transactions, and this transfer instantly becomes the basis for fresh operations, with as complete security against accidental loss as can be imagined. In the strict economic sense this medium no doubt has rapidity of circulation in a high degree, while in the sense of actual activity of movement in a given time it far outstrips money or notes, and has been well said to be the most volatile of all the mediums of exchange. Of the entire circulating medium of this country it forms incomparably the greatest, although the least considered, part. Depending for its efficiency solely upon conversion, it for the most part eludes the regulations which legislation so industriously enforces upon the other constituents of the currency. Indeed, beyond the requirement of a minimum reserve made by the law of the United States, and of most of the several states, we may say that the subject is not touched by legislation, in this country or elsewhere.[3]

The deposits of commercial banks constitute an enormous sum. National banks held in 1919 over $10 billion of individual demand deposits subject to check, as well as over $3 billion of

[3] C. F. Dunbar, The Theory and History of Banking, p. 51.

bank and United States deposits which could be checked out at will. In addition there were $4 billion of deposits subject to check without notice in state banks and over a billion in loan and trust companies. There were also several billions of unclassified deposits in state banks and trust companies, and a very considerable amount of these deposits are subject to check. If these combined amounts be compared with an estimate of the total wealth of the United States, say $240 billion, it will be seen that the banks have temporarily in trust a very considerable part of the evidences of wealth of the nation. Comparison of deposits with the volume of money also shows how small a part money plays in the deposit operations of banks.

5. **Limitations of Check Currency.**—Is there any limit to the volume of check currency? The volume of check currency obviously depends not only upon the small amount of actual cash delivered to the bank for deposit, but upon loans or credits granted by the bank to depositors, and to the deposit of checks and other credit instruments which the depositor has received from his debtors. The volume of credit instruments is determined by the volume of business operations in process of settlement. Thus, deposit currency fluctuates with the amount of business enterprise involving the services of banking institutions in the granting of loans or credit. The only practical restriction placed upon the possible volume of deposit currency is the requirement of a cash reserve of a certain percentage of the deposits and the limitations which may be put upon loans.

The term "volatile," as applied by Dunbar to deposit currency, is well chosen. While such currency in the mass is enormous and is expanding with the growth of business and the consequent increase in loans, it is always in the process of extinction. The loans on which deposits are based are as a rule short. The deposit perishes when the loan is paid by check drawn on the same or any other bank.

Theoretically there is no reason why deposit currency, or checks, may not enter into general circulation in the same way as bank notes. The bank note is a promise to pay, created by the bank's credit; the check also represents an implied agreement or promise of a bank to pay a certain sum. If a depositor should make out checks on carefully prepared paper, payable to bearer, and in convenient denominations, they might be acceptable for a long continued series of payments. A check, however, is not prepared with these characteristics.

There is not general and sustained confidence in the checks issued by individuals; it is more convenient to draw the checks in sums which satisfy the specific obligation to be met rather than in even denominations; and there are too many opportunities for imitating and altering checks issued by a great number of individuals. Consequently credit instruments of this nature are promptly redeemed and have but a short life. A check is quickly deposited at a bank and upon that deposit another check may be drawn. One check is thus replaced by another. The life of the individual check is limited, but the deposit continues to circulate by means of new checks. Some checks indeed may be used in successive payments by indorsement, but as a whole, check currency is speedily liquidated. Notwithstanding the short term of life which individual checks enjoy, the total volume of check currency outstanding at one time, as has been previously noted, is enormous, and it is by means of this agency that a large number of business transactions are settled.

6. Deposits and Capital.—Banking business tends to be conducted more and more upon the basis of deposits rather than upon capital. There has been a notable change in the relation of deposit liabilities to the capital investment of banks. In 1870, capital (including surplus and undivided profits) of all national banks was about equal to deposits; in 1919 the ratio of capital to individual deposits was only $1 to $5.31. In some individual

banks the ratio of capital to deposits is far less, and many believe that the stockholders should be obliged to furnish a larger proportion of funds. Such critics view the unlimited expansion of deposits based so largely upon loans, with no restriction beyond the maintenance of a cash reserve, as a danger, and demand that a formal restriction be placed upon the total deposits which an individual bank holds. The Comptroller of the Currency has recommended that this relationship of capital to deposits be definitely prescribed by law, so that the total deposits which a national bank may receive shall be limited to eight or ten times the unimpaired capital and surplus of the bank.[4] It is argued that inasmuch as loans approximate deposits, if deposits are ten times the capital and surplus, a loss of over 10 per cent in loans through bad bebts would wipe out both capital and surplus and destroy the solvency of the bank.

7. Time and Demand Deposits.—Deposits may be classified as demand deposits or time deposits, according as the depositor is free to withdraw at will or agrees to allow the deposit to remain for a minimum specified time. Either kind of deposit may or may not draw interest, depending upon the previous agreement. According to these differences, the total number of deposit accounts in all national banks in 1919 was classified as follows:[5]

Demand deposit accounts on which interest is allowed	1,149,861
Demand deposit accounts on which no interest is allowed	10,079,188
Time deposit accounts on which interest is allowed	6,765,179
Time deposit accounts on which no interest is allowed	246,072
	18,240,300

The total number of national bank deposit accounts alone makes more than one-sixth of the total population, but in many cases one depositor has more than one bank account, in the same

[4] See Report, 1914, Vol. I, p. 20, and subsequent reports; also E. W. Kemmerer, The Relation of Bank Capital to Deposits, published by the Bankers Statistics Corporation, 1920.

[5] Report of the Comptroller of the Currency, 1919, Vol. I, p. 32.

bank or in different banks.[6] In addition there are the deposit accounts of state banks and trust companies, which would probably add several million more. In a few of the states a majority of all deposit accounts in national banks are carried on time, as in Maine, Vermont, Massachusetts, Michigan, Wisconsin, and Minnesota. In Texas, Louisiana, Mississippi, and Oklahoma more than four-fifths of the accounts are carried on demand.

8. Savings Deposits.—In addition to the deposits for current use to be checked against there has been in recent years a growing tendency for commercial banks, as well as the more specialized savings institutions, to hold deposits of savings. The table in the preceding section shows that more than one-third of the deposit accounts represent time deposits. This is evidence of the large participation of commercial banks in holding savings accounts. There is no authority nor prohibition in the National Banking Act for or against this practice, and many commercial banks compete with savings banks for this business. Beginning with 1908 each national bank has been required to state whether it receives savings deposits, and if so, the amount.[7] In the Federal Reserve Act this practice of carrying savings accounts is recognized by the requirement that member banks shall be required to keep a smaller amount of reserve against its time deposits than against demand deposits. This act also defines as demand deposits all deposits payable within 30 days; "time deposits shall comprise all deposits payable after 30 days, and all savings accounts and certificates of deposit which are not subject to less than 30 days' action before payment" (section 19).

Deposits in savings banks and in the savings departments of commercial banks generally are not based upon previous loaning operations but represent the savings of the depositors who prefer to entrust them to a banking institution for investment rather

[6] Report of the Comptroller of the Currency, 1919, Vol. I, p. 29.

[7] See Report of the Comptroller of the Currency, 1911, pp. 27–30, 216–219; also Report, 1912, p. 11.

than to undertake individual responsibility. As a rule deposits of this nature are not checked against, and frequently the savings banks reserve the right to require notice in advance of withdrawal, as for example, 30 days. Although this right is rarely enforced, there is a tacit assumption that withdrawals will be infrequent, thus leaving the bank free to make investments of a more or less durable nature, as in mortgage notes and bonds.

9. Cost of Checking Accounts.—The cost to the bank in carrying small deposit accounts against which checks are drawn is frequently overlooked. A banker who analyzed the accounts of his institution found that there were 4,636 small checking accounts with an average balance of $30. The cost of handling these small accounts over the income from them was about $26,000 annually. Some depositors made thirty checks in drawing out $100. It was further estimated that if the bank could eliminate these 4,600 accounts the remainder of the 25,000 accounts could be taken care of with about one-third of the existing force of employees. Although this inquiry was made some years ago, it probably illustrates a fairly common condition today.

> Many of these accounts are simply household accounts where the wife deposits fifty dollars the first of the month and then draws this out in checks ranging from fifty cents to $2.50. Many of the accounts belong to clerks in the various stores whose income is from $50 to $60 a month, and they likewise draw a great many checks. I think it is safe to say that of our 52,000 accounts the 4,600 of these small checking accounts cause more concern, more worry, and more trouble than all the rest put together.

Another writer on banking states that accounts with balances between $50 and $100 represent a loss to the bank of $5.20 to $11.60 per year.[8] Some banks assume this loss, calling it good-will advertising, while others, because of the expense,

[8] *The Bankers Magazine*, Feb. 1921, p. 217.

charge the depositor a small sum. Commercial banks, because of the constant fluctuations in their deposits due to withdrawals and additions by checks, are obliged to employ a larger number of clerks than are savings banks and trust companies. On this point a bank official made the following analysis: four representative commercial banks in Chicago, with deposits of $242 million, employed 1,319 officers and clerks; four savings banks and trust companies with deposits of $168 million had only 360 officers and clerks.

Some banks require a minimum of deposit before an account is accepted. For example, one bank in New York requires $5,000, others demand from $100 to $500, and some country banks require only $50. Many banks now make a small service charge for carrying small accounts, the charge varying from 25 cents per month on balances less than $25, to $3 per month on balances less than $100. Deposit accounts are, however, sought for by banks, not simply for the profit which may be derived from the balances left with the bank, but because a depositor may become a borrower, and "it is an axiom of banking that a good borrower is as much, if not more, benefit than a good depositor."[9]

10. Interest on Deposits.—For many years there has been discussion as to whether national banks should pay interest on deposits. It will be seen from the table on page 156 that but a small proportion of the demand deposit accounts receive interest. Some institutions pay a small rate, 2 per cent, on balances of $100 and over, up to a minimum balance of $25,000. It is asserted that commercial banks, if interest be paid, are tempted to make unwise investments in order to meet this outlay. Moreover, under such policy the assets are more likely to be tied up through an overextension of loans or purchase of securities, so that in case of emergency a bank is not in a position to meet the needs of depositors. Commercial banking is not primarily designed to

[9] W. H. Kniffin, The Practical Work of a Bank, p. 59.

take care of deposit savings but to facilitate applications for credit. In recent years the Comptroller of the Currency has recommended that the rate of interest which a national bank may pay shall not exceed 4 per cent, unless the highest rate of time paper fixed by the federal reserve bank of the district is in excess of that rate.

11. **Deposits of Banks in Other Banks.**—A very considerable portion of bank deposits, that is, deposits made by one bank with another, are held by New York banks. For example, at the close of 1918 the total bank deposits held by all national banks were $2,852 million. Of this more than a third, or $1,021 million, was in New York City national banks; Chicago banks had $318 million and Philadelphia, $172 million. New York banks hold deposits from every section including foreign countries as is seen in the following table (December 31, 1918):[10]

	Thousands
From banks in New England states	$ 55,070
" " " Eastern states	388,621
" " " Southern states	112,182
" " " Middle Western states	168,327
" " " Western states	38,047
" " " Pacific states	52,733
" " " Alaska, Islands, and foreign countries	206,230

These large bank deposits in New York City and other financial centers are due, first, to the need of "country" banks carrying balances in these cities against which drafts can be drawn for the convenience of their customers; and second, to the more profitable use of surplus funds in the call money market, particularly in New York City. Banks in the metropolitan centers are willing to pay interest on bank balances which are subject to recall on demand, because they in turn can loan these funds on demand to stock-brokers and others engaged in stock market operations.

[10] Report of the Comptroller of the Currency, 1919, Vol. I, pp. 86–89.

There has also been controversy in regard to the policy of paying interest on bank deposits. In the larger cities it has long been the practice of banks to pay interest on balances of other banks. In criticism it is urged that this attracts funds which would otherwise be loaned at home, that interest rates are thereby increased, and that it is dangerous to tie up the fortunes of smaller banks and their depositors with the operations of speculators in New York. While it is recognized that country banks may become dependent upon the banks of New York, Congress hesitates to place legislative restrictions upon the free movement of funds. After the establishment of the federal reserve system the rate paid on New York bank deposits was for a time by agreement determined by a sliding scale based upon the 90-day federal reserve bank discount rate. This tying-up of the interest rate on bank balances with the discount policy of the federal reserve banks was regarded as objectionable, and in 1920 a conference of bankers recommended that no rate in excess of 2 1/4 per cent be paid on the balances of banks and trust companies.[11]

12. Guaranty of Deposits.—For many years there has from time to time been agitation, particularly in the West where bank failures were not infrequent, for the insurance of bank deposits by government guaranty. A bill was introduced into Congress in 1905 providing that all deposits in national banks made in good faith by persons not stockholders or officers of the bank should be guaranteed by the United States government, and in order to indemnify the government against loss a special tax should be levied on all deposits, equal to 1/10 per cent. The proposal attracted attention but did not result in federal legislation. Several states, however, passed laws for the guaranty of deposits, as Oklahoma in 1907, followed by Kansas, Nebraska, Texas, South Dakota, North Dakota, Mississippi, and Washing-

[11] *Federal Reserve Bulletin*, Feb. 1920, p. 157.

ton.[12] An effort was made by Oklahoma to apply the guaranty to national banks, but this was declared unconstitutional. It is difficult to determine the benefit secured by this legislation. Banking in some of these states at least, if not in all, had been inadequately supervised by state authorities, and as a result there were many weak institutions. The guaranty law, with the possibility of assessment upon all banks, forced the strong banks in self-interest to support more vigorous supervision. Failures of banks consequently were not so frequent. It is claimed, however, that this improvement would have taken place even if there were no guaranty law, for failures are more common in newly settled communities and are not so likely to occur when the pioneer stage is passed.

13. Proposed Guaranty of National Bank Deposits.—More recently a Comptroller of the Currency has repeatedly recommended that bona fide deposits of national banks be guaranteed when an individual deposit does not exceed $5,000 and the interest paid is not in excess of 3 per cent. The recommendation, however, proposes that the acceptance of this policy shall be discretionary with each bank and not made compulsory. In support of this proposal it is argued that such a guaranty would afford security to millions of depositors; that a large amount of money now hoarded would be deposited in banks; that runs upon banks, with attendant disturbances and even panics, would be prevented; and that such a measure would contribute to the unification of the banking system.

The principal objections to this change are that it would tend to promote lax management on the part of banks making risky and unsound loans. Strong and conservative banks should not be called upon to pay for the mistakes of poorly managed institutions. Moreover, in the long run these assessments would finally fall upon the customers of the strong banks; this expense

[12] For description of this legislation, see Thornton Cooke, "The Insurance of Bank Deposits in the West," *Quarterly Journal of Economics*, Nov. 1909; also by same author, "Four More Years of Deposit Guaranty," *Quarterly Journal of Economics*, Nov. 1913.

would decrease the service which they could render to their own depositors. It is also urged that this is not a proper field for applying the principle of insurance, and that the analogies drawn from life and fire insurance are irrelevant. Death is a risk which overtakes everyone, and fire is likely to injure those who protect their property by all known safeguards. The risk of failure of a well-managed bank is practically nil, and for that reason each bank should stand on its own feet and not be made responsible for the errors of weak competitors.

Many, however, believe that the amount of hoarding throughout the United States is enormous. Although the ratio of losses to deposits in the aggregate is small (but a fraction of 1 per cent) the individual depositor is not protected by this knowledge. A single bank may fail and its depositors lose their savings or claims. It is therefore urged that in spite of the obligations which have been named social policy demands that the risk of individual loss be removed by co-operative effort. The establishment of the postal savings system, whereby deposits in small amounts are cared for by federal agencies, has done much to reassure the timid and ignorant and its development will undoubtedly check the practice of hoarding.

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CHAPTER XII

NATIONAL BANK NOTE CIRCULATION

1. Nature of Bank Notes.—A bank note represents the promise of a bank to pay the holder of the note, when presented for redemption, an equal amount of lawful money. The holder of the note, like the depositor, has a claim against the bank. A customer of a bank can take the proceeds of a loan or claim against the bank in legal tender money, or in a deposit against which he draws checks, or in bank promises which the bank issues in the form of notes. The customer sometimes prefers cash and sometimes a deposit credit; if cash, it is generally immaterial to the customer whether the bank tenders him coin or its certificate representative, or its own notes of issue, provided, of course, that the credit of the bank be good. As the bank notes are payable to bearer and are issued in familiar and convenient denominations, they are as serviceable as coin or government promissory notes in the ordinary transactions of trade.

2. Bank Notes Compared with Deposit Currency.—In some respects the bank note is not as convenient as the deposit credit. That disadvantage is thus described by Dunbar:

> The deposit transferred by check is more convenient for large transactions than the note, being more expeditious and safer. The safety of the deposit is due to the fact that the check, being usually payable "to order," especially when the amount is considerable, cannot be drawn or credited to its holder unless endorsed by the payee. If lost or stolen, therefore, it cannot be paid unless the bank is deceived by a forged endorsement, in which case the loss falls upon the bank itself. Bank notes, however, being payable to bearer are nearly as difficult to trace as money.[1]

[1] C. F. Dunbar, Theory and History of Banking, p. 62.

In the United States there are at present three varieties of bank notes in current use: national bank notes, federal reserve notes, and federal reserve bank notes. Only the first of these will be considered in this chapter.

National banks are not compelled to take out circulation; there are, however, but few which do not issue some notes. In the larger cities with clearing-house facilities, deposit currency is frequently more serviceable than bank notes, and consequently banks with enormous loan and deposit accounts may have comparatively small note issues. In rural communities banks have greater need of notes, which provide a convenient medium of exchange. Banks in small towns may also find an advertising benefit and prestige in the issue of notes which carry the bank's name. The difference in the policy of banks in large cities and in small towns is seen by a comparison of circulation with deposits. The note circulation of "country" banks is 11 per cent of the deposits of these banks; while the note circulation of "reserve city" banks is approximately 4 per cent of their deposits.

3. Security of Note Issues.—For general acceptability it is essential that the notes be secured by a pledge of collateral or by a gold reserve. Sometimes the security is sought for by the requirement of a cash reserve in the vaults of the bank or elsewhere, proportioned to the amount of the issue; and sometimes by a specific pledge of certain property as securities. Banking systems have varied in the degree of security which has thus been given to the deposit and to the note. There may be a common reserve to protect both, or there may be one kind of reserve for one and another kind for the other. For deposits of national banks there is a reserve kept with the federal reserve banks ranging from 7 to 13 per cent; for notes there must be a cash reserve of 5 per cent kept with the Treasury Department in addition to a pledge of government bonds.

National bank notes thus have a greater security than deposits, for the note has behind it not only a small amount of cash reserve but government bonds of the same value. Even if the bank fails, the noteholder is amply protected unless the credit of the government be suddenly assailed to an extent that the bonds pledged could not be marketed. In the event of failure of a national bank the noteholders are preferred creditors, for they have the first claim to the government bonds which are pledged for the circulation and constitute part of the assets of the bank. The depositors follow in order of preference; they are protected by the remaining assets of the bank, in addition to an assessment upon the stockholders for an amount equal to the subscribed capital. The reason for the preference of noteholders is obvious. Notes have a wide circulation; they are received by those who have no knowledge as to the management of the bank which issues the notes, and their circulation would be impeded if there was not complete confidence in their redemption. The depositor, on the other hand, is in a better position to form a judgment in regard to the soundness of the bank, and his relationship to the bank is one of voluntary choice. He must, therefore, assume a greater responsibility than the noteholder.

4. Bank Notes and Credit.—In the issue of bank notes it is sometimes said that a bank creates credit. This requires explanation. A bank converts certain forms of property which it possesses into new forms which may be used as credit instruments. Just as it holds deposits which can be used as deposit currency (checks), so it may own securities, as government bonds. These bonds are not serviceable for loaning to borrowers, for they cannot be used as a medium of exchange. The bank may, however, by depositing the bonds with the government, receive in exchange bank notes in even and suitable denominations which borrowers will gladly take. Securities have thus been converted into available credit instruments. The bank is

the agency whereby credit is made active rather than the creator of credit.

5. Origin of National Bank Notes.—One of the principal objects in the establishment of the national banking system in 1863 was to provide a uniform bank note currency which should supersede the notes issued by state institutions. At the time of the Civil War state bank note circulation amounted to about $200,000,000. The credit of these notes varied according to the reputation and standing of the banks organized under widely different state laws and with varying degrees of note protection. In some states the currency enjoyed a high degree of credit and had a wide range of circulation; in others, owing to lax supervision of banks, it was regarded with more or less distrust and frequently accepted only at a discount. The confusion arising from the attempted disruption of the Union further clouded the credit of state banks, particularly of the border states between the North and the South. The danger of non-redemption of notes as well as from counterfeiting was increased.

There were about 7,000 different kinds of notes in circulation issued by over a thousand banks. Over 3,000 varieties of altered notes were afloat, 1,700 varieties of spurious notes, and over 800 varieties of imitations, making more than 5,500 varieties of fraudulent notes. In 1862 less than a fifth of the banks issued notes which had not been altered or counterfeited. In only a few of the states was the circulation secured by any special or adequate pledge of securities or funds. In some states no assets were set aside to protect the noteholder when the currency was discredited. Trade was consequently handicapped and frequently bank failures occurred entailing losses to innocent noteholders.

Apart from the desire to reform the currency, it was expected that a market could be made for the sale of United States bonds by requiring the new national banks organized under the act

of 1863 to pledge government securities as a prerequisite to the issue of circulation. The act consequently provided that upon such purchase and pledge, notes could be taken out to the extent of 90 per cent of the market value of the bonds, but not exceeding 90 per cent of the par value. In the first act (1863) no effort was made to restrict the circulation of state bank notes, but this was accomplished in 1865 by the imposition of a tax of 10 per cent on their issues.

Although the notes were not legal tender, provision was made for their redemption by the requirement (1874) that every national bank should keep in the Treasury Department a reserve, known as the "redemption fund," equal to 5 per cent of its circulation. In making the government a redemption agency, public confidence in the notes was thereby strengthened.

6. Inelasticity of National Bank Note Circulation.—The National Bank Act did not aim to make the circulation elastic or proportionate to the requirements of commerce and industry. The security of the notes and the needs of government finance were the principal purposes to be attained. In the chapter on deposits it has been shown that deposit currency (checks) is constantly changing in volume, that it expands and contracts as deposits increase or decrease, and that as a large part of deposits is based upon loans which represent business activity, deposit currency varies as commercial transactions are brisk or slack. It was also seen that the loans which give rise to deposits are generally for short periods, and that this results in equally quick liquidation or redemption of deposit currency.

National bank notes represent a currency based upon very long loans. If the pledges which are behind these notes are sound and inspire public confidence, the notes will be generally acceptable and circulate as readily as coin or other forms of government money. Moreover, if the pledged security upon which the notes are issued have a distant date of maturity, the

notes may have a long lease of life. Long loans, however, do not represent current commercial needs; they are made as advances to governments which are in need of funds in excess of the proceeds of taxation, or to corporate enterprises, as railroads, for developing projects which require years to be productive. A bank which ties up its resources in such assets has to that extent parted with its ability to liquidate old loans and make new ones. To that extent neither its loaning power nor its note circulation expands or contracts in accordance with current commercial needs.

For example, a bank issues $100,000 of notes based upon the pledge or security of $100,000 United States bonds due in twenty years. Let us assume that at the purchase of the bonds the bank gave the government a deposit credit of $100,000. The government checks against this deposit and the checks are honored in the notes of the bank. As the receivers of the notes have complete confidence in their safeness, no effort is made to redeem them. The circulation is expanded $100,000. Under the terms of the loan the government will not make payment to the bank until the end of twenty years. Not until the bonds are taken out of pledge will there be a contraction of the currency.[2] The circulation of national banks is of this nature and for that reason is inelastic.

7. Profit on Circulation.—In the issue of notes based upon the ownership and pledge of government bonds, the national banks were able to make a generous profit, provided the bonds could be purchased on favorable terms. A bank obtained interest on the bonds and also on the notes taken out. This apparent double profit was subject to certain deductions. The bank did not receive notes up to the full value of the investment, it ran a risk in a possible decline in the market value of the bonds,

[2] Temporary contraction may result from notes being presented for redemption by other banks to the bank of issue.

and it had to defray certain incidental charges for plates, agents' fees, and cost of redeeming the notes. Moreover, the circulation was subject to a federal tax of 1 per cent. There was an additional burden if the bonds had to be purchased at a premium, for in that case the bank must set aside each year from its earnings a certain amount as a sinking fund to extinguish the premium, as the bonds, when they reached maturity, were redeemed at par.

In the years immediately succeeding the Civil War these disadvantages were not apparent. There was an abundance of bonds due to the large borrowings of the government; the rates of interest on the bonds were high, and bonds could be purchased at favorable prices. There was consequently a large profit to be gained by taking out notes. As state bank issues were retired by a burdensome tax, the national bank circulation quickly expanded until in 1871 it exceeded $300 million, far in excess of the amount that had previously been put out by the total number of state banks.

After 1880 the national debt was rapidly reduced by the excess of revenue over expenditure. There was a decline in the market rate of interest on all investments, and the new refunding bonds issued by the government did not bear as high a rate of interest as those replaced. The price of the old outstanding bonds, which were not refunded and which bore high rates of interest, rose to a considerable premium. Under these conditions the profit to be gained by taking out circulation was not so attractive. Many banks, indeed, found it profitable to sell their bonds to take advantage of the high prices. Between 1882 and 1891 the volume of bank notes fell from $359 million to $168 million.

These movements are illustrated by the following table showing the price of government bonds, the amount of government bonds available for purchase by national banks, and the amount of circulation outstanding:

National Bank Circulation Compared with Volume of United States Bonds

	Average Price of Bonds		Amount of U. S. Bonds (Millions)	Amount of Bank Notes (Millions)	Percentage of Bonds Deposited for Circulation
	4 per cent's of 1907	4 per cent's of 1925			
1880	106.32	.....	$1,775	$324	20.3
1885	122.28	.....	1,247	287	25.0
1890	122.74	.....	776	129	18.7
1895	112.01	121.53	781	180	26.5
1900	115.15	134.52	1,023	224	27.8
1905	104.61	132.36	895	435	52.2

The small amount of profit to be obtained by taking out circulation is illustrated by the computation furnished by the Comptroller of the Currency in his report for 1895:

Profit on National Bank Circulation, on the Basis of $100,000 Bonds and $90,000 Circulation

Items	Old 4 Per Cent's	New 4 Per Cent's	5 Per Cent's
Market price	111.48	121.75	111.75
Receipts:			
Interest at 6 per cent on notes issued	$5,400.00	$5,400.00	$5,400.00
Interest on bonds	4,000.00	4,000.00	5,000.00
Total	$9,400.00	$9,400.00	$10,400.00
Expenses:			
Tax of 1 per cent on notes	900.00	900.00	900.00
Cost of redemption	45.00	45.00	45.00
Express charges	3.00	3.00	3.00
Plates	7.50	7.50	7.50
Agents' fees	7.00	7.00	7.00
Sinking fund account premium	686.60	277.13	1,392.33
Total	$1,649.10	$1,239.63	$2,354.83
Net receipts	7,750.90	8,160.37	8,045.17
6 per cent on cost of bonds	6,689.02	7,305.16	6,885.20
Profit on circulation	$1,061.88	$855.21	$1,159.97

The loss of interest on the 5 per cent redemption fund is not included, since the amount in the fund is counted as part of the bank's reserve.

In 1900 an important change in the conditions of note issue was made. National banks were permitted to issue up to the par value of the bonds, instead of 90 per cent, and the tax on circulation was lowered from 1 to 1/2 per cent, provided the pledged securities were the new refunding 2 per cent bonds. Authority was also given for the establishment of banks with a capitalization as low as $25,000, thus extending the system to the smaller towns. Many new small banks took out circulation and those already established increased their note issues. Circulation increased each year; in 1914 it reached $750 million. In 1920 the profit on national bank note circulation, based upon a deposit of $100,000 United States bonds, ranged as follows, according to the variety of bond deposited and prices of the bonds:

United States consols of 1930, Loan of 1925, and Panama Canal Loan	$981 to $1,036
Four's of 1925	1,117 " 1,454
Two's of 1916–1936	1,064 " 1,221

8. Volume of National Bank Note Circulation.—It is one of the purposes of the Federal Reserve Act (1913) to do away with national bank note circulation. This act authorized the federal reserve banks to purchase over a period of years from the national banks their government bonds. This would automatically retire the national bank note circulation. Owing, however, to the war, which created unexpected financial obligations, the federal reserve banks have not been able to carry out this policy. As a result the circulation is still large, amounting in 1920 to nearly $700,000,000.

The volume of national bank circulation compared with capital of national banks, total liabilities of national banks, and money in circulation, is shown in the following condensed table:

National Bank Circulation Compared with Capital, Total Liabilities, and Total Money in Circulation

(Amounts in millions)

Year July 1	National Bank Notes	Capital Paid in	Total Liabilities	Total Money in Circulation	Per Cent National Bank Notes of Capital	Per Cent National Bank Notes of Liabilities	Per Cent National Bank Notes of Total Money
1880	$337	$456	$2,035	$973	74	16	34
1890	182	635	3,010	1,429	29	6	13
1900	300	622	4,944	2,055	48	6	15
1910	684	990	9,897	3,102	68	7	22
1920	696	1,224	22,198	6,088	57	3	11

This table shows the declining importance of national bank note circulation among the liabilities. Deposit currency (as the result of deposits), on the other hand, increased. Even before the establishment of the federal reserve system (1913) the proportion of national bank note circulation in the total volume of money in circulation had fallen from about a third in 1880 to less than a quarter in 1910. The volume of national bank note currency is limited by the total amount of bonds outstanding which are designated by law as available for pledge against circulation. In 1920 this amounted to about $800 million. National banks own nearly all of these bonds, and the limit of this form of currency under existing law is practically reached.

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CHAPTER XIII

COMMERCIAL LOANS

1. Variety of Loans.—A borrower may obtain funds for current transactions in a variety of ways, which may be classified in this manner:

A. As to maturity:
   1. Demand or call loans:
      (a) Direct loans on promissory notes
   2. Time:
      (a) Discounted paper

B. As to obligation of parties:
   1. Single-name paper—promissory notes
   2. Double name:
      (a) Accommodation paper
      (b) Discounted notes of a customer (receivables)
      (c) Acceptances:
         (1) Bankers'
         (2) Trade

C. As to collateral security:
   1. With collateral consisting of:
      (a) Listed securities
      (b) Unlisted securities
      (c) Bills of lading
      (d) Warehouse receipts
      (e) Trust receipts
      (f) Bills receivable
      (g) Accounts receivable
      (h) Chattels
      (i) Mortgages on real estate
      (j) Mortgages on farms
      (k) Other collateral
   2. Without collateral

D. As to agency negotiating loan:

1. Banks
2. Commercial paper brokers or dealers
3. Finance companies, discount companies, etc.
4. Acceptance corporations
5. Other business firms
6. Individuals

E. As to use of proceeds:

1. Financing short-time operations in producing, purchasing, carrying, or marketing goods in one or more steps of the process of production, manufacture or distribution
2. Carrying or trading in stocks, bonds, or other investment securities, except bonds and notes of the United States government
3. Carrying or trading in bonds or notes of United States government
4. Consumptive purposes

2. Demand or Call Loans.—Demand loans, known also as "call" loans, may be terminated at any time by the action of either party; the lender may require immediate payment or the borrower may make payment before it is demanded. In the United States call loans are for the most part used by traders on the stock and produce exchanges in Wall Street and are negotiated on collateral security. In general, a bank prefers to make call loans only to those who have no claim upon it and from whom it would not hesitate to demand immediate payment at any time. In recent years a market for call loans based upon acceptances has been developed in New York, similar to the London call loan market.

Brokers who deal extensively in call loans keep in touch with their banks and know just where and how much call money is available and at what interest rate. Upon learning the daily clearing-house results, bank officers in New York having surplus funds available for call loans inform their brokers who make loans on the floor of the exchange. These brokers loan the money to

other brokers and traders and inform the bank of the names of those who have borrowed. Brokers may be employed on a salary or on a commission basis, but there is no recognized standard rate to be charged for placing such loans. Nearly all the larger financial institutions make their stock-exchange loans through brokers who divide their time between making loans and dealing in securities. Stock-exchange time loans are handled by a different group of loan brokers who go from bank to bank with their offerings.

Although by agreement a stock-exchange call loan is payable at any time during banking hours, it is customary to consider a loan as running for at least one day. It is also the custom of the Street not to demand payment on Saturday. In calling a loan the bank sends a notice to the borrower before 12:15 P.M. and he then has until 2:15 P.M. to pay his loan and thereby obtain his collateral. Technically a bank may call for additional margin at any time, and if such margin is not furnished promptly it may sell the collateral, reimburse itself, and credit the balance, if any is left, to the borrower. In practice, under normal market conditions, margin calls are sent out at the close of banking hours and the broker is required to restore his margin the next day. Brokers generally restore their margins promptly and it is rarely necessary to call a loan on account of insufficient margin.

3. Commercial Call Loans.—It is not to be assumed from the foregoing that the ordinary mercantile or manufacturing firm does not find it convenient to borrow money on demand loans. Very often a bank will be requested to accommodate a customer who wishes to engage in some new undertaking but who cannot determine in advance just when the transaction will be completed and the obligation settled. It is not unusual for loans of this kind to run for 6 months or a year or even longer. There is usually a mutual understanding (not a written agreement) between the bank and its customer that demand for payment of

the note will not be made until some time which is convenient to the borrower. In the case of demand loans of this kind banks are generally particularly anxious not to embarrass their customers. They are just as eager to continue a loan as is the borrower and seldom call for payment, provided the security is satisfactory and the periodic interest payments are being met. A large commercial bank in Boston states that during its fifty years of existence it has not served a single notice on a borrower for payment of a demand loan and this case is probably by no means exceptional. However, if the demand for money becomes urgent or the bank is doubtful of the borrower's solvency, it will not hesitate to protect itself from loss by demanding payment instantly.

4. Interest on Call Loans.—The interest rates on demand or call loans are not customarily fixed by stipulated agreement as in the case of time loans, but fluctuate from day to day with the money market. When there is a mutual understanding between the borrower and lender that the loan will not be called until it is convenient for the borrower, the rates usually do not vary much from those on time loans. When no such understanding exists, however, as in the case of brokers and traders in the produce and stock exchanges, a bank will generally make a call loan at a lower rate of interest than is charged for a time loan. A bank is willing to do this because in order to keep its assets liquid it is essential that a considerable amount of the loans be recallable at short notice. On occasions of financial stringency or crisis, however, the fluctuations of the rates of call loans are much sharper than those of time loans and sometimes reach an excessively high figure. For example, in the month of January, 1914, the call rate varied between 1 1/2 and 10 per cent, while the time rate never rose above 5 per cent.[1] In the following March, when there was no disturbance in the money market, the call money

[1] Financial Review, 1915, issued by *The Commercial and Financial Chronicle*, p. 62.

rate in New York City ranged between 1 3/4 and 2 per cent. An example of an excessively high rate is that during the October panic of 1907, when the call rate rose to 125 per cent.[2] Such rates are exceptional and are generally brought about by the insistent demand of speculators who need money to protect marginal dealings when there is a rapid fall in the price of stocks. In many states usury laws establish maximum interest rates on loans, but under the laws of New York a banker can charge for call loans above $5,000 any rate the borrower is willing to pay.

From time to time rates may be changed. If the bank wishes to increase the rate it notifies the borrower; if the borrower wishes to lower the rate he notifies the bank. Such action is referred to as "marking up rates" or "marking down rates." If the borrower considers the rate excessive he may choose to "shift" the loan, that is, borrow elsewhere and make payment on the original note.

5. Time Loans.—Time loans, as their name implies, are loans that have a definite maturity date. They constitute the bulk of the loans of almost any commercial bank. There are two classes into which time loans may be subdivided: (1) direct loans on promissory notes, and (2) discounted paper. Time loans running for 90 days are very common. Four months' paper is also dealt in extensively; 5 and 6 months' paper is less common; and the paper having a longer period of maturity than 4 months is exceptional in a commercial bank and is confined principally to agricultural paper. A federal reserve bank may discount for any of its member banks notes, drafts, or bills of exchange, provided they have a maturity at the time of discount of not more than 90 days; but if drawn or issued for agricultural purposes or based on livestock, they may have a maturity of not more than 6 months. To be eligible for rediscount at a federal reserve

[2] Financial Review, 1908, p. 40.

bank, 6 months' agricultural paper, whether a note, draft, bill of exchange, or trade acceptance, must comply with the regulations which would apply to it if its maturity were 90 days or less. A federal reserve bank may discount for any of its member banks bankers' acceptances which have a maturity at the time of discount of not more than 3 months' sight. A trade acceptance to be eligible for purchase by federal reserve banks must have a maturity at time of purchase of not more than 90 days.

Under the provisions of the Federal Reserve Act any member bank may accept drafts or bills of exchange drawn upon it having not more than 6 months' sight to run; furthermore, any member bank may accept drafts or bills of exchange drawn upon it having not more than 3 months' sight to run, if such paper is drawn by banks in foreign countries or dependencies or insular possessions of the United States for the purpose of furnishing dollar exchange as required by the usage of trade in the respective countries, dependencies, or insular possessions. The regulations regarding agricultural loans of member banks provide that no loan secured by farm land shall have a maturity of more than five years from the date on which it was purchased or made by the bank, and that no loan secured by other real estate shall have a maturity of more than one year from such date.

6. Interest on Time Loans.—The rates of interest on time loans of different periods of maturity vary according to the money market not only at the time when the loan is negotiated but as to what may be expected in the near future. If there is a large supply of loanable funds with the expectation that special demands will arise in the course of 3 months, a 4 months' time loan will bear considerably higher rate of interest than one for 60 days. On the other hand, if there is a present stringency which there is reason to think will be relieved in a few weeks, the longer loan will enjoy the lower rate. For example, in December, 1913, 60-day loans were placed at 4 3/4 to 5 1/2 per cent and 4-month

loans at from 4 1/2 to 5 per cent. In the following month of February, 60-day loans fell to 2 1/2 to 2 3/4 and 4-month loans to 2 3/4 to 3 1/4 per cent. In the first instance the shorter loans bore the higher rate; in the second, the longer loans.[3]

The ratios of demand and time loans vary in different parts of the country. For example, in New York City call loans in 1919[4] constituted more than one-fourth of all loans and in Boston about one-fifth. In Nashville, Tennessee, the proportion was but one-twelfth. In some years the call loans in New York City have run as high as one-half of the total loans of all kinds.

7. Interest and Discount Calculations.—Interest which is collected or deducted by the lender at the time the loan is made is called "discount." Discount is thus distinguished from real interest, which is payable at maturity, or, in the case of demand loans or long-time loans, at stated intervals (monthly, quarterly, or semiannually), or at the payment of the loan. "To discount" means either to buy or to sell bills and notes before their maturity. With almost no exceptions banks in buying bills of exchange discount them, whereas in the case of a straight loan interest rates are more commonly employed.

In order to show the distinction between discount and interest, let us consider the following two problems:

1. An Interest Problem. A merchant has borrowed from his bank on a 2 months' note for $10,000 and bearing interest at 7 per cent. What sum will be required to discharge the debt at the maturity of the note?

Interest for one year on $10,000 at 7 per cent is $700.

Interest for 2 months, or 1/6 of a year = 1/6 of $700, or $116.67.

Amount required to discharge the debt:

Principal	$10,000.00
Plus interest	116.67
Amount due at maturity	$10,116.67

[3] Financial Review, 1915, pp. 62–63.

[4] Report of Comptroller of Currency, 1919, Vol. II, p. 158.

2. A Discount Problem. A merchant has sold to his bank a sight bill for $10,000, 60 days before maturity and on the basis of a discount rate of 7 per cent. Determine discount charged by the bank and the proceeds obtained by the merchant.

Discount for one year on $10,000 at 7 per cent is $700.

Discount for 60 days (1/6 of a year) = 1/6 of $700, or $116.67.

Discount and proceeds:

Face of bill	$10,000.00
Deduct discount for 60 days	116.67
Proceeds	$9,883.33

In the problems above the interest in the first illustration is exactly the same as the discount in the second. The borrower, however, pays more for the use of his funds in the second illustration, for the reason that he obtains a loan of $9,883.33 as compared with $10,000 when he borrows on a note.

Although the use of a discount rate as compared with an interest rate gives the lender an advantage, the practice of discounting is probably largely due to the fact that it is a more convenient method of calculation, particularly in connection with bills of exchange. Unless the rate is high and the time involved long, it makes no great difference whether interest or discount is figured.

8. Basis of Calculation.—The banking custom, sanctioned by law, is to make interest and discount calculations on the assumption that there are 30 days to the month and 360 days to the year, although in many small country banks the 365-day basis is used. The 360-day method is of advantage to the lender. On a loaning account of $50,000,000 at an average rate of 4 per cent, a bank would earn as additional interest $27,777.78 for the extra 5 days in an ordinary year, and $33,333.33 for a leap year.

As an example of how time is computed on a loan, a 6 months' note dated March 15 and maturing September 15 would bear

interest for 184 days, and on a 360-day basis would bear 184/360 of a year's interest. If the note were dated September 15 and matured March 15, the number of days would be 181. Discount is customarily charged for every day from date of credit to date of maturity, excluding the former and including the latter. In some states the laws allow banks to charge interest for the day of discount as well as the day of maturity. The three-days-of-grace rule still applies in some states to time loans, although interest is charged for the days of grace. No grace is allowed in the payment of a demand note.

It is the universal practice to compute bond interest on the basis of 360 days to the year, and this also applies to United States government bonds, except in dealing with the United States government or the federal reserve bank. This interest is figured on the month and day basis, taking 30 days to the month. For example, if coupon interest began to run from October 1, and the bond was sold on November 3, the accrued interest would be figured for 32 days on the basis of 360 days to the year. The United States Treasury, however, pays accurate interest on the basis of 365 days to the year on government bonds and notes outstanding. Also the reserve banks compute interest and discount on a 365-day basis in dealing with member banks.

9. Discounting Interest-Bearing Notes.—If an interest-bearing note is offered for discount it is customary, in computing the interest which will be due at maturity, to figure the actual number of days, provided the note is drawn payable in 30, 60, 90 days, etc., or with a fixed maturity. If, however, the note should be drawn payable in 3, 4, or 6 months, interest would be computed on the basis of months and days. In every case, however, when the loan matures on a Saturday, Sunday, or holiday, interest to the next business day is added. In discounting notes bearing interest it is customary to discount the interest as well as the principal. Thus a $1,000 note for one year and

bearing interest at 6 per cent amounts to $1,060, but if discounted at the beginning of the year would yield as proceeds $996.40, and not $1,000.

10. One Bank's Methods of Computing Interest and Discount.—One prominent New York bank in explaining its methods of computing interest and discount writes as follows:

> It is the custom in this city, and we believe the general practice throughout the country, in discounting notes for any period up to six months to compute the discount for the actual number of days on the basis of 360 days to the year. In computing interest on time loans where the interest is made payable at maturity or periodically before maturity, we always endeavor to collect interest on the basis of actual number of days. Sometimes, however, an exception is made, particularly when the loan is made for a certain number of months. Occasionally, the borrower declines to pay the actual number of days, taking the stand that six months is one-half a year, three months one-quarter of a year, etc. When this position is taken by the borrower, we do not insist upon payment of the interest for the actual number of days. We have noticed that in the case of most of our loans to individuals or corporations this question is never raised. It occurs principally in connection with loans made to brokers on stock exchange collateral. We always collect interest on demand loans for the actual number of days. In short, our position is that we endeavor to collect interest for the actual number of days on all loans but do not insist upon it when the loan happens to be made for a certain number of months, interest to follow.

11. Short Methods of Computing Interest.—There are a number of short methods of computing interest that can be used when tables are not available. The following is sometimes used by discount clerks for certain calculations, figured on the usual basis of 360 days to the year. To find the interest on a given sum at a given rate for a given period, first determine the interest at 6 per cent, multiplying the principal by half the number of months and one-sixth the number of days in the period, and then

compute the interest for other rates by making the necessary additions or subtractions. Thus the additions or subtractions for interest rates other than 6 per cent would be calculated as follows:

Rate of Interest	Subtract	Rate of Interest	Add
2	2/3 of 6 per cent	7	1/6 of 6 per cent
3	1/2 " " " "	7 1/2	1/4 " " " "
4	1/3 " " " "	8	1/3 " " " "
4 1/2	1/4 " " " "	9	1/2 " " " "
5	1/6 " " " "	10	2/3 " " " "

For example, suppose we wish to find the interest on $20,000 for 6 months and 12 days at 7 per cent. One-half of the months is three, which is equivalent to 3 per cent, and one-sixth of the days is 2, or 2/10 of 1 per cent. Therefore, the multiple is .032 and the interest on $20,000 at 6 per cent for the time named is $640. Consequently, if the rate is 7 per cent the interest would be found by adding 1/6 of $640, which amounts to $746.67 ($640 plus $106.67).

Obviously 6 per cent interest on $1 for 2 months (one-sixth of a year) is 1 cent, and for 6 days, 1 mill. Hence, to find the interest on a given sum for 2 months at 6 per cent, move the decimal point two places to the right, and for 6 days three places to the right.

12. Single-Name Paper.—Single-name paper includes the notes of individuals, firms, or corporations bearing the names of the makers only. Although several names may appear on a note either as makers or indorsers it is still single-name paper if such names represent identical interest, as in the case of a firm's subsidiary organization doing business under a separate name.

The use of single-name paper in the United States dates back to the Civil War. The depreciation of the greenback and the uncertainty of the value of "trade paper" (merchandise notes)

caused wholesalers and jobbers to offer merchants large inducement for cash payments in settlement for the purchase of goods. In order to obtain funds to take advantage of such discounts, merchants sold their single-name notes through brokers to banks. At first the brokers handled the notes strictly on a commission basis, but later they purchased them outright to a large extent.

Until the Federal Reserve Board adopted the policy of establishing a wider use of acceptances, custom had made single-name paper by far the most common form of loan in the United States. Many of the strongest wholesale houses still follow the policy of selling to their customers on open account without asking for notes or acceptances. When these houses need funds to meet their obligations they have their own notes discounted at the bank or sell them to a broker. Some merchants and manufacturers who receive notes from customers hold this paper in their portfolios and sell their own notes when necessary.

One of the advantages of borrowing in the open market on single-name paper as compared with the use of acceptances lies in the simplicity of the transaction. For example, suppose a merchant wishes to borrow $150,000 for the purpose of taking advantage of purchase discounts on some outstanding obligations. He draws up thirty of his single-name notes of $5,000 each (or some other convenient denomination) and disposes of them through a note-broker who purchases the paper on, say, a 7 per cent basis. The broker will then very likely sell the notes to banks with which he deals and will charge each bank a small commission for the work he has performed in investigating the character of the paper, in employing capital of his own for transacting the business, and in acting as intermediary between the bank and the borrower. The commission is usually 1/4 per cent flat; hence on three months' paper it amounts to 1 per cent per annum. On this account borrowers put out paper for as long a term as will find a market—5 or 6 months. Under the acceptance form of settlement the merchant would create as many credit

instruments as he had payments to make; this would impose additional bookkeeping upon the bank and would increase the collection cost.

13. Accommodation Paper.—There are three kinds of double-name paper: (1) accommodation paper, (2) discounted bills (notes) receivable, and (3) acceptances. For convenience, acceptances will be discussed in another chapter. Accommodation paper represents what would otherwise be single-name paper if it were not indorsed by one or more parties who have not indentical business interests with the maker and who thus give the instrument an additional element of security. From the point of view of the holder the advantage of double-name against single-name paper, in general, consists of the liability of the additional party to the instrument as an indorser. Although in some instances two names may not offer any greater security than one, nevertheless, it is generally recognized that ordinarily two names are better than one. However, some banks object to accommodation paper on the ground that very often the borrower has secured the reluctant signature of some friend and that this arrangement is likely to cause trouble in collection if the maker is unable to meet his obligation at maturity.

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Note: See Appendix A, Problems 8–11.

CHAPTER XIV

SECURITY FOR LOANS

1. Collateral Loans in General.—In taking a collateral loan the borrower deposits and pledges for the security of the lender such items as stocks, bonds, bills of lading, bills receivable, warehouse receipts, or other evidences of property. The security is a guaranty that the loan will be paid at maturity; if not paid, the collateral may be sold to reimburse the lender. If it is sold the balance is refunded to the borrower after the necessary amount of the proceeds has been used for reimbursing the lender. Collateral loans may be "call," "short-term," or "long-term." Form 15 is used by a bank for collateral call loans.

2. Banking Policy in Loaning on Collateral.—Some banks, even in large cities, make few loans on collateral, while others, and particularly trust companies, loan largely on such security. When banks loan to brokers and dealers in the stock and produce exchanges they usually demand that the collateral be "mixed," that is, there must not be too much of any one class of security. The market value of the collateral must exceed the amount of the loan by a certain percentage, depending upon the character of the security. Such margins range commonly from 10 to 40 per cent.

The amount of margin allowed on acceptable collateral is a factor taken into consideration by a bank in fixing the interest rate on the loan. For example, if the borrower hypothecates government bonds the margin required above the amount of the loan should be small and a comparatively low rate of interest or discount might be expected.

No matter how sound any security may seem to be, the banker

.....Dollars Boston, Mass., ... 19.....

On Demand, for value received ..... promise to pay to THE NATIONAL HUBVILLE BANK, of Boston, or order, at its banking house ..... Dollars with interest at the rate of ..... per centum per annum ..... having deposited with said Bank, as Collateral security for payment of this or any other direct or indirect liability to said Bank, due or to become due, or that may hereafter be contracted.....

.....

In case of depreciation in the market value of the security hereby pledged, or which may hereafter be pledged for this loan..... ..... agree to furnish, on demand, satisfactory additional security, so that the market value thereof shall always be at least ..... per cent more than the amount of this note. And failing to deposit such additional security, this note shall be deemed to be due and payable forthwith, anything hereinbefore expressed to the contrary notwithstanding and the said Bank, or its assigns, may immediately reimburse itself by the sale of the security, as hereinafter authorized. And authority is hereby given to the said Bank, or to its assigns, to sell, assign and deliver the whole or any part of the said Collateral, also any security substituted therefor or added thereto, without notice or advertisement, either at public or private sale, at the option of the said Bank, or its assigns, on the non-performance of this promise; any balance of the net proceeds of such sale remaining after paying all sums, whether then or thereafter payable, due from ..... to the said Bank on account of this note or otherwise, to be returned to ..... And it is further agreed that the said Bank, or its assigns, may bid and become purchasers of such sale, and no other purchaser shall be responsible for the application of the purchase money.

[Signature] .....

.....

Form 15. Collateral Loan Agreement

usually wishes to know whether it can be liquidated quickly. The real value of the property back of a stock or bond is highly important for the investor, but for the banker who is examining the merits of a security as collateral, marketability is much more important than steadiness of value or ultimate safety. If the

securities pledged are listed upon the stock exchange and can be readily sold, the bank in ordinary times is amply protected, as it can promptly realize on its security by selling the stocks and bonds. However, the fact that a security is a listed one and is dealt in even on the New York Exchange, does not in itself warrant its being accepted as satisfactory collateral, any more than the fact that a security is not listed should prevent it from being considered acceptable collateral. Very often a listed security may at a particular time be subject to wide fluctuations in price, or its market may become so narrow as not to be able to absorb any appreciable quantity of it without a substantial fall in price.

3. Obtaining Legal Title to Pledged Property.—In receiving collateral on a loan it is necessary for a bank to place itself in a position to obtain legal title to the property in case of default of the borrower. To accomplish this in the case of Wall Street call loans, banks require that the securities be a good delivery under the rules of the New York Stock Exchange. When the borrower deposits securities drawn in his name, they must be indorsed in blank. If, however, the borrower wishes to pledge securities drawn to the order of some other person, it is necessary to obtain a certificate or agreement signed by this person giving the borrower the right to hypothecate the property.

Although the rules governing the pledging of collateral include many technical points in which the business man is not particularly interested, it is well to understand the general nature of an hypothecation certificate. "To hypothecate," according to the commercial use of the term, means to make the legal acknowledgments which constitute the holder of a promissory note or bill of exchange also a holder of the stocks or bonds, bills of lading, warehouse receipts, insurance certificates, or other evidences of property pledged to secure the debt or liability; the hypothecation certificate is the instrument which contains a

formal legal recital of such acknowledgments. Hypothecation certificates are used to a large extent in financing foreign trade for the purpose of pledging the bill of lading (and the merchandise covered by it), the insurance certificate, and other shipping documents as collateral security for the draft.

Borrowers often wish to substitute or withdraw their collateral temporarily. Banks provide for this by requiring their customers to fill out application blanks in case of substitutions, or to sign receipts in the case of temporary withdrawals. Some of the more important of the special types of collateral loans will now be briefly considered under separate headings. The use of warehouse receipts, bills of lading, trust receipts, etc., as collateral has already been discussed in the chapter on commercial credit documents.

4. Bills Receivable.—By discounted bills (notes) receivable (receivables) is meant customers' promissory notes which have been received by merchants and taken by them to the bank to be discounted. Suppose that a retail merchant has bought a lot of merchandise which he intends to dispose of in 90 days. Not having sufficient funds for cash payment, he makes arrangements whereby the wholesaler agrees to take his 90-day note. The wholesaler, in turn, having indorsed the note, turns it over to his bank and receives credit for the proceeds. Although bills (notes) receivable enable a seller to realize funds readily, there is this to be said against them: The indorsement of a "receivable" and its sale creates a contingent liability which in some cases may prove to be an important consideration. Sometimes a borrower, instead of discounting notes (bills receivable) that he receives in the course of business, chooses to negotiate at his bank a direct loan on the basis of his personal note secured by the bills receivable pledged as collateral. If any of the bills thus pledged mature during the term of the loan they must be "taken up" and replaced with other security, or a part of the

loan must be paid. The note of a merchant or manufacturer secured by his bills receivable is considered, by the federal reserve banks, to be desirable paper. However, if issued with the object of carrying collateral for a speculative purpose, or collateral in the nature of stocks and bonds other than securities of the United States, the note would not be eligible for rediscount at the federal reserve bank.

5. **Assignment of Accounts Receivable.**—Accounts receivable are sometimes used as collateral for loans when business firms cannot obtain from their customers acceptances or notes for goods sold. Discount companies, commercial finance companies, and others engaging in loans of this character, usually select some of the larger and better accounts, and then require the borrower to assign such accounts to them. The assignment may be made openly or secretly. In the event of the former plan notice is served on the debtors that the accounts have been pledged and that payment must be made to the bank or assignee instead of the merchant. Any surplus thus received above the amount of the loan is returned to the borrower. When secret assignments of accounts are made, the borrower is required to sign a statement promising to apply directly all receipts from such accounts to the reduction of the loan. Checks and drafts from the debtors must be indorsed in favor of the assignee and sent to him directly, and must not be deposited in a bank for the account of the borrower.

Many so-called "commercial bankers" make a business of loaning on, or more precisely, buying, accounts receivable. Commission merchants, also known as "factors," not only sell goods for customers and mills for whom they act as selling agents, but often buy accounts. In a typical case a factor advances the manufacturer 80 per cent of the amount of the invoice as shown by the account and charges him interest for the time it has to run. If the manufacturer desires the 20 per cent also or, in other

words, a guaranty of payment of the full amount of the bill, the latter will charge an extra percentage for the service and risk involved. When manufacturers and merchants make a practice of openly assigning accounts receivable it is customary for their bankers to receive some such statement as: "This bill has been assigned to the A. B. C. Company and all payments must be made to them direct."

Accounts receivable are not generally considered to be a high class of collateral security. A careful investigation of every assigned account must be made, and besides the handling of the loan and collection of the payments involve considerable work. Moreover, borrowers who resort to loans on this kind of security have very often exhausted every other means of borrowing and consequently need to be carefully watched. Finally it is necessary to allow considerable margin for shrinkage inevitable in all such loans. Under the rulings of the Federal Reserve Board the assignment of an open account is not negotiable paper and is not eligible for rediscount by a federal reserve bank.

6. **Merchandise Loans.**—Merchandise loans are those made upon the security of warehouse receipts, bills of lading, trust receipts, and other documents covering commodities. These loans are commonly negotiated for the purpose of financing the manufacture, transportation and marketing of the great staples such as wheat, cotton, tobacco, sugar, and many other commodities. The machinery for handling these loans has been perfected to such a degree that often by changing the collateral successively from bills of lading to trust receipts to warehouse receipts the same loan covers the progress of raw material from the primary market through the manufacturing processes and into the retail market, when the loan is paid off from the proceeds of sales. Further discussion of bills of lading, warehouse receipts, trust receipts, etc., may be found later in this chapter and also in the chapter on commercial credit documents.

7. Cattle Loans.—Although local banks loan sums in the aggregate direct to cattle-raisers, the bulk of the cattle paper in the United States is handled in the first instance by cattle loan companies, which exist in all the large livestock markets and to some extent in the producing centers. These companies, while holding a portion of their loans until maturity, are essentially brokers between cattle-growers and investors, and follow the plan of rediscounting their paper in large financial centers.

There are decided elements of strength in cattle paper that make it highly attractive to bankers. Besides being self-liquidating, in that when the cattle are sold the proceeds are available for payment of the loan, the paper is based upon a life necessity for which there is at all times a ready and comparatively stable market. Also, unlike the regular commercial paper houses, cattle loan companies indorse the paper which they sell, and forward with the note a chattel mortgage covering the cattle, the feed, and sometimes the equipment for handling the stock, such as horses and machinery.

8. Classes of Cattle Loans.—For purposes of description cattle paper may be classified under three heads: (1) feeder loans, (2) stocker loans, (3) dairy loans.

Feeder loans, also known as "live beef loans," are usually made to enable producers to purchase beef steers which are ready for the last stage of fattening. These loans are made to mature within 3 to 6 months, according to the age of the animals and the period of feeding. If the borrower is considered to be a man of ability and good moral risk and has the proper facilities for caring for the animals, it is not uncommon to advance him the entire purchase price of the cattle. Steers in the fattening pen gain in weight on the average 2 pounds apiece per day, and therefore as the maturity of the loan approaches the security increases both on account of quantity and quality.

Stocker loans are made on cows, young heifers, and steers

which are being pastured or kept on farms and ranches for growth and breeding purposes. This paper commonly runs for 6 months with a probability of renewal of from one to four times. Because of the natural increase in calves and the growth of young cattle, the security behind stocker loans is constantly increasing. Cattle in pastures, however, are subject to more vicissitudes of the weather, disease, and accident than steers in the fattening pen; also, because of the longer duration of the paper, stocker loans do not possess all the advantages of feeder loans. However, the element of risk is small, the paper yields a slightly higher rate, and is readily purchased by banks and investors.

Dairy loans usually run for long periods and are customarily paid in monthly instalments out of the proceeds of the butter and milk. These loans are seldom made by cattle loan companies, but instead are handled by local banks which are in a better position to judge the character of the borrower and his prospects of meeting the obligation at maturity. Dairy paper is not considered liquid and cannot be readily rediscounted or sold outside of the district of its origin; therefore in financial centers it is considered inferior to either feeder or stocker loans.

9. Cotton Loans.—The financing of the cotton crop in a typical case involves extending credit to the planter, the factor, and the buyer. In the spring the planter will need seed, mules, fodder, machinery, labor, and household provisions, and will borrow the requisite funds from his local bank or from a cotton factor. The factor is often a merchant also and may furnish the planter with provisions as well as money. In most instances, however, provisions for the planter's commissary are obtained on credit from a wholesale grocer.

The factor is essentially a commission merchant who loans funds in order to obtain consignments of cotton. The loan may be secured by chattel mortgage or realty mortgage, or the obligation of the planter may be simply on open account. Factors are

generally persons of financial strength and are in a position to borrow from banks by pledging cotton warehouse receipts or other collateral.

At picking and ginning time the planter either sells to a wagon buyer on the street in his home town, or he consigns his cotton to a factor in a larger city, drawing generally for additional funds at the same time. When the cotton is sold by the factor for the planter, the debts of the latter are settled.

10. Financing the Buyer.—In order to illustrate how buyers are sometimes financed, suppose that Jordan Brothers of Atlanta send a buyer into the cotton section of Georgia armed with a letter of introduction to a local bank. The letter will state that Jordan Brothers will be responsible for all drafts drawn on them when accompanied by "Order notify" bills of lading. The buyer will then purchase from the factors or planters what cotton he wants, making payment by checks on the local bank. Later in the day he will obtain from the railroad company bills of lading covering so many bales of cotton of a specified weight and bearing certain designated marks. The bills of lading will be attached to a sight draft on Jordan Brothers of Atlanta and will be turned over to the local bank which places the item, less the usual exchange, to the buyer's credit.

A few days later the draft is received by some Atlanta bank which presents it to Jordan Brothers who in turn take it up with a check. With possession of the bills of lading Jordan Brothers can now secure the cotton from the railroad company. But if the cotton has not arrived and Jordan Brothers wish to borrow funds, they may do so by hypothecating with their bank the bills of lading. When the cotton arrives it will be necessary to obtain the bills of lading and surrender them to the railroad company before the latter will deliver the merchandise. Arrangements for this are made by Jordan Brothers' signing a trust receipt, binding themselves not to dispose of the cotton, except for the

benefit of the bank. The cotton may now be placed in a warehouse, or it may be reshipped to some eastern or northern market, or it may be exported to Europe.

11. Grain Bills and Paper.—In the marketing of grain the farmer has at least four methods which he may follow:

1. Outright sale to a country warehouse or elevator.
2. Sale after storage in the country warehouse or elevator.
3. Sale on contract before actual delivery.
4. Sale on his own account in the terminal market.

The relative importance of these methods varies in different sections of the country, but in the large grain-producing states of the Central West and Northwest the first method of outright sale is the most common. When the crop is harvested the grain is delivered to country elevators and warehouses in specially constructed wagon boxes or tanks. Upon his arrival at the local market the farmer will go from one buyer to another until he has found where he can obtain the most money for his load. Upon receipt of the grain the local elevator or warehouse will roughly grade the grain, issuing its receipts, which are paid for in cash at the office. The wagon load of grain is now placed in a bin in the elevator or warehouse, from which it will be shipped to a terminal market when there is enough of equal grade to make a carload.

Let us now assume that the grain is shipped from the local elevator to a lake port, say, Duluth. Here it is officially graded, perhaps as No. 1 northern wheat, this grading being accepted in all markets. A draft is drawn on the Duluth dealer, with bill of lading attached, and is sent to a bank in that city. If the Duluth dealer is borrowing on the shipment, the bill of lading will be security to the bank for the advance. Assuming that the grain is to be forwarded, it must be handled by an elevator, and therefore the bill of lading must be surrendered before this can take

place. The bank will require its customer to sign a trust receipt which protects the bank's control of the grain while the transfer is being made.

When the grain is placed on board a steamer bound for Buffalo, the Duluth dealer will draw on a Buffalo house to which he made the sale, and attaching the bill of lading, the inspection certificate, and insurance certificate he will turn them over to his local bank, which will forward them for collection. Upon payment of the draft in Buffalo the bill of lading is surrendered for a trust receipt, which is shortly afterwards replaced by a railroad bill of lading covering the shipment to New York.

A draft is now drawn on New York and is forwarded with rail bill and other documents for payment. From the railroad the grain is put into a floating elevator at New York, the bank holding a trust receipt while the transfer is being made. When the grain is on board the steamer, a draft is drawn on the European buyer or his bank and there is attached an ocean bill of lading, insurance certificates, and other miscellaneous shipping papers. The bill with documents attached is then sold to a New York bank dealing in foreign exchange.

Local buyers and dealers occasionally borrow on their holdings in grain, but ordinarily they sell most of the grain shortly after obtaining it to dealers at the primary markets. These dealers while awaiting favorable sales store large quantities of grain in the central elevators at the primary and seaboard markets, and pledge to banks as the basis for loans the elevator or warehouse receipts. This so-called "grain paper" is carefully regulated by law in the western grain states. Public elevators and warehouses in these parts of the country are subject to state control and also to the rules of the produce exchange, and the receipts that they issue are readily accepted as collateral by banks. Some western grain paper is sold to eastern banks of the United States and also to Canadian banks through commercial paper brokers.

12. Mortgage Loans on Real Estate.—Real estate and other forms of permanently invested capital are poor collateral for a commercial bank, because they cannot be quickly converted into cash. National banks, until the enactment of the Federal Reserve Act, were prohibited from loaning on real estate mortgages but could temporarily accept a mortgage to secure a previously existing debt on which the debtor had defaulted. Some state bank laws contain similar provisions with regard to real estate loans.

Under the new law any member bank not situated in a central reserve city may legally make loans secured by improved and unencumbered farm land or other real estate as provided for by Section 24 of the Federal Reserve Act. Certain conditions and restrictions, however, must be observed:

1. There must be no prior lien on the land; in other words, the lending bank must secure a first mortgage or deed of trust.

2. The amount of the loan must not exceed 50 per cent of the actual value of the land.

3. The maximum amount of such loans which a member bank may make must not exceed one-third of its time deposits or one-fourth of its capital and surplus.

13. General Principles for Buying Commercial Paper Without Collateral.—Although a bank in buying commercial paper without collateral cannot determine the desirability of a particular offering solely on the basis of some previously developed rule-of-thumb but must judge each case for the most part by itself, nevertheless, there are certain guiding principles which have wide application in this field. These may be enumerated as follows:

1. *Desirability of Paper Based on Staple Commodities.* The paper of concerns dealing in staple commodities or the necessities of life is recognized as generally being more desirable than the paper of less essential industries. In order to have prime

commercial paper it is necessary that the proceeds be used for financing an article that has a wide and active market which thereby makes it easy for the loan to be self-liquidated. Many lines of goods, such as highly specialized groceries, jewelry, or art goods, are slow-moving commodities and concerns handling them have a low rate of turnover. Paper based upon such commodities obviously does not liquidate itself as rapidly as paper issued for articles that stay on a merchant's shelves only a short time. Paper issued for the purpose of financing consumptive loans, such as the purchase of a pleasure automobile, is not founded on sound banking principles, for the reason that the use of such an article will not in itself produce revenue for liquidating the loan, whereas in the case of a commercial car such revenue would be derived.

2. *Diversification of Risks.* Banks usually find it a good policy to diversify their paper so that risks are distributed both as to location of borrowers and the nature of their business. This policy is based upon the theory that depressions are not likely to occur simultaneously either in all parts of the country or in all lines of industry.

3. *Profitable Operation of Enterprise for a Series of Years.* Just as a continuous dividend record for a considerable period together with a growth in the surplus account are excellent signs in the case of a stock which has been purchased for investment, so in buying of commercial paper the profitable operation of an enterprise for a series of years is a good indication of the business ability of the borrower. With few exceptions sound enterprises are the results of gradual development and healthy growth, and cannot be established in a short time. Therefore past achievement as well as present standing points toward probable success in the future.

4. *Purchasing Paper from Reputable Dealers.* Banks in buying paper from brokers or dealers place considerable importance in the character and standing of these concerns. Although dealers do not indorse their offerings, reputable houses thoroughly

investigate their paper before selling it over their name, and also ordinarily guarantee its genuineness.

5. *Single- and Double-Name Paper Should Not Be Outstanding at the Same Time.* When a borrower issues a considerable amount of single-name paper for the purpose of obtaining discounts on purchases or in order to finance other current transactions, his discounted bills receivable appearing on the statement at the same time should be investigated very carefully, for the reason that the indications are that the borrower is not taking advantage of all of his discounts and is short of working funds. In order to retire the original issue of single-name paper a liberal amount of quick assets is necessary; receivables are among the best quick assets of a borrower and therefore should not be sold. It is also obvious that since the single-name paper was sold to pay current debts, no large amount of bills payable should be outstanding thereafter.

6. *Use of Trade References.* By obtaining information from other business concerns which have dealings with the borrower, a bank can ascertain his credit standing in his own particular line of trade. Such information may indicate the borrower's strength or weakness in regard to his policy in taking purchase discounts, the payment of bills on time, the use of technicalities in avoiding obligations, and the general standard of his business ethics.

7. *Use of References of Other Banks.* Commercial banks make a practice of keeping well informed concerning local business conditions and the standing of business houses in their vicinity. This information is available for other banks and is constantly being made use of in determining credit risks of applicants for loans. Special forms are employed by banks for answering requests for data of this kind.

8. *Credit Statements by Borrowers.* To pass intelligently on an application for a loan from a concern that does not furnish collateral, a bank must know the amount of the concern's assets and

their condition, the liabilities, revenues, and expenses, and other similar financial data. Furthermore, it is highly desirable that credit statements showing this information should be prepared by public accountants, for the reason that statements which are compiled by the borrower, even if there is no question about his integrity, tend to magnify assets, minimize liabilities, and in general to exaggerate points in his favor.

14. Open-Market Operations—Commercial Paper Broker.—Open-market operations, as generally understood, include transactions with commercial paper brokers or dealers, finance companies, factors, discount companies, or other business firms not engaged in a purely banking business, involving the negotiation of loans and the buying and selling of commercial paper. As used in the Federal Reserve Act, however, the term "open-market operations" refers not to rediscounting but to the purchase and sale by a federal reserve bank, either from or to domestic or foreign banks, firms, corporations, or individuals, of cable transfers and bankers' acceptances and bills of exchange with or without the indorsement of a member bank.

The commercial paper broker or dealer performs an important function in the financing of current business transactions. He acts as a go-between for the bank having funds to invest and the borrower needing accommodation. Until the enactment of the Federal Reserve Act the nearest approach to a discount market in this country was the market created by commercial paper dealers. However, besides providing in a measure a discount market there were and are other good reasons for the existence of paper dealers. In part an explanation is to be found in the growth since the Civil War of the custom by merchants and manufacturers of selling their single-name promissory notes in the open market. More important, however, is the service rendered by the commercial paper dealer. An efficient dealer keeps closely in touch with the buying and selling needs of his field and knows the preferences of

the banks and the conditions of the borrowers. By the use of a well-organized credit department he is able to get an accurate check upon the quality of the paper offered, and banks purchasing it can usually rely on its safety. By the development of dealings with regular clients the broker does not need to make a new investigation at every issue of paper, and the individual borrower knows that he will be properly cared for.

Competition has required, and the sale of large quantities enables the dealer to work on, a small margin. Most of the leading houses, upon the receipt of paper from the borrower, advance him cash less the commission. In order to provide themselves with funds, some dealers negotiate loans with their banks on single-name paper without collateral for sums amounting, not infrequently, to millions of dollars; other dealers with less financial strength hypothecate the paper bought as security for their notes.

Dealers distribute the paper to banks through the mail and through traveling representatives. Some dealers give banks options extending from a week to 10 days, while others sell their paper outright. None of the dealers indorse the paper, although most houses guarantee its genuineness. Whether or not the paper is guaranteed, however, is not considered as important by a bank as the standing of the dealer himself. When requested, dealers furnish banks with credit and financial statements of the borrower together with a digest of the statements and a list of firms from whom trade references may be obtained and also any banks that may have handled his paper in the past.

15. Other Distributors.—Commission merchants, also known as factors in some lines like textiles, not only sell goods for customers and mills for whom they act as selling agents, but also enter into arrangements for accepting sellers' invoice statements dated ahead and book accounts on assignment. Commercial bankers and finance companies also make a business of purchasing accounts receivable as well as loaning funds on the basis of

collateral not generally acceptable to the ordinary commercial bank. Discount companies[1] are now being organized in the United States, and some bankers are inclined to believe that it will be possible for them to rediscount paper with these discount companies on more favorable terms than with the federal reserve banks.

16. Differences in Rates of Interest on Loans.—Discount and interest rates vary according to the character of the loans, the locality, and the condition of the money market. This is illustrated by the quotations prevailing in New York City and El Paso, Texas, for the 30-day period extending from February 15 to March 15, 1921:

Comparative Table of Interest Rates at New York and El Paso

	New York			El Paso		
	High	Low	Common	High	Low	Common
1. Prime commercial paper:						
Customers, 30 to 90 days'	8	6	7	10	7	8
Customers, 4 to 6 months'	8	6	7	10	8	8
Open market, 30 to 90 days'	7 1/4	7 1/4	7 1/4	8	8	8
Open market, 4 to 6 months'	7 3/4	7 1/4	7 1/2	8	8	8
2. Interbank loans	8	6	7	8	7	8
3. Bankers' acceptances:						
Indorsed, 60 to 90 days'	7	5 3/4	6–6 1/2			
Unindorsed, 60 to 90 days'	7	5 7/8	6 1/8–6 1/2			
4. Collateral loans, stock exchange, or other current:						
Demand	8	4	7	10	8	8
3 months'	8	4 1/4	6	10	8	8
3 to 6 months'	7	6	6	10	8	8
5. Cattle loans				10	8	9
6. Ordinary loans to customers, secured by Liberty bonds and certificates of indebtedness	7	4 1/4	6	10	6	8

[1] See note p. 119.

17. Comparison of Loans, Deposits, and Capital.—The following table comparing the loans, deposits, and capital (including surplus and undivided profits) of national banks since 1870, illustrates the part which banks play in dealing in credits. First, it will be noted that there is a close correspondence between loans and deposits; second, that capital has provided a diminishing proportion of funds for the loaning operations of the banks; and, third, that in the five years, 1915–1920, the loans or credits granted by the banks nearly doubled. During this latter period banks enormously increased their dealings in credits. New methods of converting private credit into bank credit were made possible through the federal reserve system. Loans and discounts in this table do not include securities of any kind which the banks own, but simply the temporary loans and discounts to individuals, firms, and corporations.

COMPARISON OF LOANS, INDIVIDUAL DEPOSITS, AND CAPITAL OF NATIONAL BANKS SINCE 1870

Nearest Date to June 30	Loans		Individual Deposits		Capital		Percentage of Capital to Loans
	Amount (Millions)	Percentage of Increase	Amount (Millions)	Percentage of Increase	Amount (Millions)	Percentage of Increase	
1870	$719.3	...	$542.3	....	$561.8	....	78
1875	972.9	35	686.5	25	686.9	22	70
1880	994.7	2	833.7	21	624.5	— 9	63
1885	1,257.7	26	1,106.4	33	725.0	16	58
1890	1,933.5	54	1,521.7	37	934.5	29	48
1895	2,016.6	4	1,736.0	14	987.2	6	49
1900	2,623.5	31	2,458.1	42	1,013.1	3	39
1905	3,899.2	49	3,783.7	54	1,406.9	39	36
1910	5,430.2	39	5,287.2	39	1,851.0	32	34
1915	6,660.0	23	6,611.3	23	2,105.4	14	30
1920	12,396.9	86	14,135.6	114	2,622.1	24	21

The percentage increases in loans and deposits show a marked similarity, while the contribution of capital as a basis for loans

has for the past 25 years steadily declined. In 1920 it was approximately a fifth of loans as compared with a half in 1895.

In order to show the rapid changes which took place in the five years of the development of the federal reserve system, the following figures are given for each of the years, 1915–1920:

ANNUAL GROWTH OF NATIONAL BANK LOANS, DEPOSITS, AND CAPITAL SINCE 1915

Year	Loans		Deposits		Capital		Percentage of Capital to Loans
	Amount (Millions)	Per Cent of Increase	Amount (Millions)	Per Cent of Increase	Amount (Millions)	Per Cent of Increase	
1915	$6,660.0	...	$6,611.3	...	$2,105.4	...	30
1916	7,679.2	15	8,143.1	23	2,103.3	...	27
1917	8,818.3	15	9,521.6	17	2,198.6	4	25
1918	9,620.4	9	10,181.8	7	2,249.8	2	23
1919	10,574.8	10	11,891.1	7	2,363.4	5	21
1920	12,396.9	17	14,135.6	15	2,622.1	9	21

Again is seen the approximate agreement of changes in loans and deposits; also the lagging increase in capital, and the diminishing proportion of capital to loans.

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CHAPTER XV

THE CREDIT STATEMENT

1. The Credit Statement as an Element in Credit Decisions.—In making commercial loans without collateral, well-managed banks almost invariably require from a prospective borrower a financial statement showing assets and liabilities, revenue and expenses, and other facts bearing upon the character and condition of the business. Partly responsible for the recent development in this feature of banking practice is the necessity of accompanying with a financial statement commercial paper offered for rediscount at a federal reserve bank.

The degree of reliance placed upon the credit statement varies greatly with different banks, but indications are that it is increasing with the progress in accounting knowledge and analytical experience. Nevertheless, it is fair to say that fully 40 to 60 per cent of the decision in any credit risk rests upon other factors—"the so-called moral risk, the credit grantor's knowledge of the ability of the management to produce economically, the moral fibre of the managers, the condition of the plant, general business conditions, and other matters of this kind."[1]

Recent statistics of the causes of business failures, indicating the importance of incompetence as a dominant factor, emphasize the necessity of careful consideration by the lender of the personal equation in the borrower. In 1912, *Bradstreet's Journal* ranked incompetence first among causes of failure in the United States. In 1919, 38.2 per cent of all failures were attributed to this cause, while only 30.3 per cent were charged to lack of capital, the next

[1] Alexander Wall, "Study of Credit Barometrics," *Federal Reserve Bulletin*, March 1, 1919, p. 230.

largest cause. In 1920, when credit was unusually tight, incompetence ranked equal in importance to lack of capital.[2]

2. Credit as a Business Aid.—Another aspect of the importance of the personal factor in credit-granting is well illustrated from the observation of a well-known sales manager, who writes:[3]

> One of my associates sold rubber tires years ago. He sold some goods to Henry Ford, then a poor struggling man, but the big rubber company for whom he was working promptly turned the order down, because the report secured from the commercial agency at the time said something about Ford being visionary, and of uncertain credit. In Detroit there are plenty of stories current of the inability of credit men and bankers to measure Ford correctly. The country is full of examples of that sort.
>
> Arthur Capper, one of the largest newspaper proprietors in Kansas, also governor of that state and now senator, is another example. When he started in business he was an impecunious printer. He had a chance to buy the Topeka *Capital*, one of the biggest papers in the West. He got somebody—a real credit man or a group of them—to back his enterprise with credit, and he is today one of the most successful business men in Kansas.
>
> Another illustration. I know of a poor foreign laborer who started to make steel barrels in a little shed, just a few years ago. He tried to get credit, but could not. The banks turned him down. But an officer of one of the banks individually extended him credit. This laborer is now a large manufacturer, and this bank officer is one of the leading officials in his company, a proper reward for credit vision.

The above illustrations bring home the value of the personal factor, but the impression should not be gained that it is generally desirable for a bank to make very many such loans. Banks which fail are usually loaded with this sort of paper. The financial districts have an abundance of enthusiastic and erratic geniuses who would have the banks back their projects to a dangerous

[2] *Bradstreet's Journal*, February 5, 1921, pp. 5–6.

[3] J. George Frederick, "The Sales Manager's Point of View," *Credit Monthly*, July 1920, p. 15.

limit. Of course, occasionally one of these individuals proves successful, but the vast majority do not.

3. Other Information Necessary.—Experience during 1920–1921 shows the necessity of taking fully into account the general business situation and conditions in a particular trade, prospective as well as present, in arriving at a loan decision. Business concerns which succeed well enough in ordinary times may be utterly unable to weather a business storm; and a financial statement which is entirely satisfactory at the beginning of a crisis may be extremely unsatisfactory at its end.

The credit statement must therefore be regarded as but one element among several contributing to a creditor's decision. It should be analyzed in the light of other information, and conclusions from it should be checked up by the aid of evidence of an entirely different character. Nevertheless, a careful analysis of a credit statement in suitable form, especially in comparison with similar statements of earlier years and of other concerns, will frequently yield evidence of competence or incompetence, and of adaptability or inadaptability to changing business conditions, which might otherwise be overlooked. It is because the borrower's statement is coming to be regarded as an essential element in such decisions that considerable attention is now being given to the problems involved in its analysis.

4. Two Main Parts of a Credit Statement.—The two main parts of a credit statement of any business concern correspond to its fundamental financial statements and are: (1) the balance sheet, sometimes called a "statement of assets and liabilities," or a "statement of resources and liabilities," and (2) the income sheet, variously designated the "profit and loss account," "income account," "revenue and expense statement," etc. The balance sheet is an accounting statement of the financial condition at a given moment. Its presentation is based on an

equation that what one owns equals what one owes plus the difference between these two items, or net worth. The same thing expressed differently is: Assets equal liabilities (amounts due to creditors) plus net worth (residual balance belonging to stockholders or proprietors). The income sheet is a running narrative of the earnings and expenses for any given fiscal period. As opposed to the balance sheet which depicts conditions at a given moment, the income sheet tells what has happened during a given period.

Both the balance sheet and the income sheet measure the financial facts of a particular enterprise, but each in its own way. The situation is somewhat analogous to a tank of water, the contents of which are being measured from time to time. Assuming an inflow and an outflow pipe, changes in the volume of water may be determined either by: (1) comparing the actual level of water for different periods, or (2) comparing the total inflow with the total outflow.

The balance sheet indicates the solvency of the business, but gives no information as to the earnings or expenses of operation. The income sheet shows the earnings or expenses, but throws no direct light on the solvency. There is, however, one common item and connecting link between these two statements and that is the figure of profit and loss or surplus. If a business has been accumulating a net profit for a period of years, as shown by the income sheets, the last instalment will appear on the income sheet accompanying that year's balance sheet, and will also be included in the surplus which stands on the liabilities side of the balance sheet.

It is the general practice in a credit statement to reproduce the balance sheet rather fully but to give only the more important items, such as sales and expenses, from the income sheet; in many cases not even these are shown or sought for by the bank. Explanation is to be found in the fact that the all-important purpose of a bank's analysis of a credit statement is to determine the

probability of the loan being repaid at maturity and not the ultimate solvency of the borrower or the desirability of the concern's securities as an investment. There is good reason to believe, however, that in the future more attention will be given to the income sheet items with particular reference to whether or not the company has been making satisfactory progress over a period of years and has been keeping track of its costs of doing business.

5. **Essentials of a Well-Prepared Statement.**—Particularly important is it that the statement be of recent date, especially in the case of concerns whose sales, purchases, receipts, or disbursements are relatively frequent and large, or whose inventories are subject to wide fluctuations in price. The statement should preferably have been audited by public accountants who have no personal interest in the matter other than their reputation for accuracy. In examining an unaudited statement not only must reliance be placed on the firm's integrity but recognition must be taken of the inherent weakness of a borrower to magnify his assets and minimize his liabilities. Audited statements may be divided broadly into:

1. Those in which the certificate is based on an examination of the books without personal supervision of inventories and independent appraisal of all assets with the aid of technical appraisers (balance sheet audits).
2. Statements verified with the personal supervision of inventories and independent appraisal of all assets (complete audits).

The value of the two classes of audits and their relation to each other depends to a great extent upon the character and magnitude of the business involved.

In some cases method 2 has advantages over method 1. In other cases, notably those of large companies in which personal supervision of inventories is arduous and perhaps impracticable

STATEMENT OF ..... DATE .....

BUSINESS ..... ADDRESS .....

TO THE ..... BANK OF .....

For the purpose of procuring and establishing credit from time to time with the above Bank, the undersigned submits the following as being a true and correct statement of his/their financial condition on the ..... day of ....., 192....

I/We agree that if any change occurs that materially reduces the assets or ability of the undersigned to pay all claims or demands against him/them the undersigned will immediately and without delay notify the said Bank, and unless the Bank is so notified it may continue to rely upon the statement herein given as a true and accurate statement of the financial condition of the undersigned:

"In consideration of the granting of any credit by said Bank, the undersigned agree that in case of failure or insolvency on the part of the undersigned, or in the event of it appearing at any time that any of the following representations are untrue, or in case of the occurrence of such change as aforesaid or of failure to notify such change as above agreed, all or any of the claims or demands against the undersigned held by said Bank shall at the option thereof immediately become due and payable.

"*Further*, that the exercise of, or omission to exercise such option in any instance, shall not waive or affect any other or subsequent right to exercise the same."

(FILL IN ALL BLANKS USING "NONE" WHERE NECESSARY)

ASSETS		LIABILITIES	
Cash on hand and in banks	$	Notes Payable for merchandise	$
Notes Receivable of customers	$	Notes Payable unsecured	$
Due within 90 days $		To banks $	
Due beyond 90 days $		To officers, directors, stockholders and others $	
Accounts Receivable of customers (current) $		Accounts Payable for merchandise (not due)	$
Past due		Accounts Payable for merchandise (past due)	$
Acceptances of customers (on hand not discounted) $		Notes Payable to controlled or subsidiary concerns $	
Merchandise (how valued) $		Accounts Payable to controlled or subsidiary concerns	$
Finished $		Trade Acceptances	$
Stock in process $		Bank Acceptances	$
Raw material $		Deposits of Money with us by officers and others $	
United States Government securities	$	Dividends declared and payable	$
Life Insurance—Cash surrender values	$	Interest on Bonds due and payable	$
TOTAL QUICK ASSETS	$	Provision for Federal Taxes (period ending.....)	$
Due from Controlled or Subsidiary Concerns $		State and Other Taxes	$
For merchandise $		Other Current Liabilities (itemize)	$
For advances $		TOTAL CURRENT LIABILITIES	$
Due from officers, directors, stockholders and others $		Bonded Debt	$
Other Investments (itemize)	$	Mortgages on Real Estate	$
Land	$	Year of Maturities	$
Buildings	$	Chattel Mortgages	$
Machinery and Equipment	$	All Other Liabilities (itemize)	$
Furniture and Fixtures	$	Capital	$
Prepaid Expenses	$	Preferred $	
Good Will	$	Common $	
Patents and Trade Marks	$	Surplus	$
Other Assets (itemize)	$	Undivided Profits	$
		Reserves (itemize)	$
TOTAL	$	TOTAL	$

Value of merchandise purchased for next season's business and not included in above assets or liabilities $.....

Contingent Liabilities: Endorsements: Notes Receivable, Trade Acceptances and Bankers' Acceptances, discounted or sold with endorsement or guarantee, $.....

Details .....

FEDERAL RESERVE BANK OF BOSTON
Statement Form
FRA 29

(OVER)

Form 16. (a) Borrower's Statement (face)

Are any of the above assets pledged or assigned? ...

Are any of the above liabilities secured? ...

Amount of above accounts and notes receivable past due or doubtful? ...

Date of Inventory? ...

Amount of Fire Insurance? On merchandise, $ ... Buildings, $ ... Machinery, etc., $ ...

Net Sales, last fiscal year? ...

Gross Profit, last fiscal year? ...

Net Profit, last fiscal year? ...

Affiliated concerns (Name and location)? ...

If partnership, when does it terminate? ...

Are there any suits pending against you? ...

Signature ...

Date signed, ... 192

Explanation of any item in this statement may be made below

Form 16. (b) Borrower's Statement (reverse)

Forms of this kind are furnished by the Federal Reserve Bank of Boston upon request of member banks which may wish them for customers.

and the value of an independent appraisal of assets is liable to be considerably exaggerated, the reverse may be true. It is estimated that 90 per cent of the statements certified by public accountants are balance sheet audits.[4]

Although the other specific requirements of well-prepared credit statements vary somewhat under different conditions, the statement form of the Federal Reserve Bank of Boston shown in Form 16 illustrates the kind of information that banks desire.

[4] *Federal Reserve Bulletin*, April 1, 1917, p. 270.

6. No Fixed Rules of Interpretation.—In analyzing a credit statement there are no fixed rules to be followed or infallible tests to be applied. This is due in a large measure to the fact that each merchant or manufacturer has his own system of accounting and his own method of inventorying. When he prepares a credit statement for his bank or note-broker he starts generally with the ledger trial balance, which probably contains several hundred accounts, and condenses it into a few items for the statement. Very often the bank will find it necessary to make allowance for depreciation or shrinkage in value in order to determine the amount of assets actually available for the payment of current debts. Moreover, it may be desirable to have accurate information concerning obligations on account of contracts and agreements that do not appear on the conventional form of balance sheet. These obligations which are common to most business concerns arise from the purchase of raw materials or the sale of finished goods for delivery at some future date at fixed prices. In the case of specialties or luxuries subject to wide variations in prices, or on a fluctuating market for staple commodities, a firm's obligations of this character may cause serious embarrassment.

But of no less importance is the consideration of unfilled orders or customers' contracts which have been canceled. In times of falling prices or business uncertainty, cancellation of contracts becomes a serious problem for manufacturers. Although in some instances manufacturers insist upon the terms of their contracts with buyers and refuse to submit to cancellations, in the majority of cases such losses are unavoidable. In general there are four good reasons why manufacturers do not as a rule take legal action against buyers who have canceled orders for goods. First of all, if the manufacturer values the good-will of his customer and is counting on future business with him he probably will not consider it wise to force him to take the merchandise. In the second place, the buyer might not be able to market the goods, and, consequently, if compelled to accept them he might be forced into

bankruptcy or placed in a position where he could not pay for them. Again, if the seller insists upon his legal rights the buyer may resort to technicalities and return the merchandise because of "defective" material or workmanship. Finally, legal procedure in such cases is long and expensive and is a matter which most business houses endeavor to avoid.

7. **Business Conditions and Customs Affecting Credit.**—In judging a financial statement the credit man will find indispensable a knowledge of trade customs, such as buying and selling methods, discounts, datings, and manner of extending credit. As a general thing the best class of commercial paper is issued by concerns dealing in the necessities of life and commodities having a wide and active market, and not such as have utility of a transitory character and are subject to the whims of fashion. The federal reserve banks look with particular favor on paper based upon readily marketable staples. By "readily marketable staples" is meant all raw products, such as cotton, grain and other foodstuffs, ores, and common chemicals, which enjoy a broad market and are thoroughly standardized and fairly non-perishable. No doubt there are some lines of manufactured goods which are sufficiently standardized as to methods of production, styles, uses, customs, and other factors, and for which there exists a broad enough market to warrant their inclusion in a list of readily marketable staples. It is hoped that the Federal Reserve Board in the near future will issue a list of staples which it considers readily marketable at all times and under all conditions.

Usually the business of the borrower is subject to those influences that affect allied and associated industries. For instance, the market for plumbing supplies is dependent on building operations, the market for dyes is affected greatly by the activity in the textile and leather trades, and the demand for cement is influenced by the amount of road construction.

Comparative statements covering a period of years which in-

cludes a business depression as well as a business expansion are much more significant than data for any single year. It is also desirable to obtain figures for similar concerns in the same section and possibly different sections of the country.[5] In examining a credit statement, banks usually first transcribe the data to a columnar sheet where comparative results for a number of years can be studied and trends in different directions can be noted.

8. Character of Quick Assets.—Jobbers and wholesale merchants stand between the original producers and the retailers, and this fact has a bearing upon the character of the former's quick assets. For example, accounts receivable of a jobber or a wholesale merchant are mostly due from retail merchants, and are more easily collected than open accounts in the retail trade. To a large extent also, the merchandise is in unbroken packages and is readily salable in the event of liquidation.

The accounts receivable of a retail merchant are largely due from individuals and allowance must be made for loss in the process of collection. Because the merchandise consists of a widely distributed variety of articles and finished goods with a relatively narrow market, considerable difficulty may be met in realizing upon these assets should it become necessary. For the reasons given, the margin of quick assets of a retail merchant should be larger than in the case of a wholesaler. This is not to be considered a reflection upon the retail merchant's paper but simply an established principle of credit.

Manufacturers' statements according to a well-recognized practice should have sufficient capital furnished by the stockholders to cover the investment in plant, machinery, and equipment less the bonded or mortgage debt. The current borrowings will be represented by raw material, finished and unfinished goods, and current manufacturing expenses. In the business depression

[5] Writings of Alexander Wall and publications of Robert Morris Associates contain information on this point.

of 1920 and 1921 many manufacturers quickly found themselves in the unfortunate position of having a small margin, if any, of quick assets over quick liabilities, although their fixed assets were often large.

The seasonal requirements in many lines differ greatly. For instance, department stores have two fairly well-defined seasons and a well-conducted business can borrow and run out of debt twice a year. This is likewise true of many concerns selling to department stores. Shoe manufacturers should be in a position to carry liberal cash balances between seasons. Other lines, such as the fur business, liquidate by the end of December and tire manufacturers by June. The lumber manufacturer requires a year to get his cut ready for market, and consequently loans to finance his operations run fairly steady throughout the year.

Such considerations as have been mentioned are of material significance because the indebtedness arising from the loan depends for liquidation on the convertibility, use, or operation of the property against which the loan is incurred.

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CHAPTER XVI

ANALYSIS RATIOS

1. The Use of Ratios in Analysis.—The specific tests that may be applied by a bank to a credit statement rendered by an applicant for a loan are of two kinds: quantitative and qualitative. By qualitative tests are meant the examination of the nature and inherent soundness of each item appearing on the prospective borrower's statement. Some discussion of this is given in the following chapter. Quantitative tests involve a determination of certain ratios such as the following, which will be discussed in sequence:

Current assets to current liabilities.
Inventory to cost of sales (merchandise turnover).
Merchandise to receivables.
Net worth to fixed assets.
Sales to merchandise.
Sales to receivables.
Sales to net worth.
Total debt to net worth.
Sales to fixed assets.

For the banker or note-broker, quantitative tests are the more practicable, and of the various ratios used the first, or the current ratio, is by far the most common. As a general thing the banker or note-broker, after satisfying himself as to the moral risk of his client, accepts the accuracy of the figures appearing on the credit statement and concerns himself principally with the ratio of current assets to current liabilities. Although the use of the current ratio as a measure of the financial standing of a business firm is more or less justified by experience, this measure may

prove very unsatisfactory in certain cases and if employed, as it is frequently, as the acid test of a statement may do injustice to both the credit-grantor and the prospective customer. Excellent work has been done in the development of the technique of credit analysis by Alexander Wall and organizations like the Robert Morris Associates. Mr. Wall's ratio-averages include such items as the rapidity of turnover, relationship of debt to net worth, ratios for different industries and for different sections, etc. Although the future of credit analysis will probably witness progress in the direction outlined by Mr. Wall, to date there are very few bankers who have found occasion to make practical use of these new ideas.

2. Ratio of Current Assets to Current Liabilities.—The terms "current" or "quick," when used in connection with assets and liabilities, refer to cash items or those that will take the form of cash or its equivalent within a comparatively short time (ordinarily a year), and distinguish such assets and liabilities from those of a permanent or fixed character. To the banker who is interested most of all in the firm's ability to meet its current obligations, this part of the statement is of primary importance. In the case of a mercantile company bankers ordinarily expect a satisfactory statement to show at least a 2 to 1 condition, or in other words, $2 of quick assets to discharge $1 of quick liabilities. This 2 to 1 ratio, or 50 per cent rule, is not an absolute standard but simply a working guide. The reasoning behind this rule is that whereas 100 per cent of the current liabilities will require payment it is not safe to count on more than 50 per cent of the current assets being converted into cash within the same period when the liabilities will fall due.

Concerns which have quick assets of an exceptionally liquid character may not require so large a ratio. For instance, the business of a packing house is such that the buying of raw materials can be curtailed at any time, with the result that a large part of

the assets can be quickly converted into cash. When a statement does not show a margin of current assets over current liabilities, one can be justified in concluding that part of the borrowed money is being used for the purchase of equipment or other fixed assets, or for the payment of debts contracted for fixed assets. In some cases, however, the situation may be due to recent large shrinkages in inventory values. Under these conditions a conservative banker or note-broker will use great care in purchasing the paper.

It is felt by some bankers that the use of the trade acceptance will interfere with the so-called "50 per cent" rule. In many countries depositors are given two lines of credit, one line of credit based on trade acceptances and the other line on inventories. The banker examines the trade acceptances offered and if they are satisfactory, agrees to take a large proportion of such paper received by the depositor. The banker then carefully considers the character of the inventory and its status with respect to the outstanding liabilities and grants a line of credit based on these facts. The line is liberal if the inventory consists of staple products, and restricted if the inventory is made up of products that are not readily salable.

Many foreign bankers claim that this is a more scientific way of extending credit than the American method of granting "50 per cent"; and, moreover, it is pointed out that the loan is based on two specific items in the depositor's statement—first, the trade acceptances, which represent the best form of accounts receivable, are discounted, and second, money is loaned on the depositor's inventory considered in relation to his liabilities. Under this system the funds advanced by the banker are very seldom used for the purchase of machinery and equipment, additions to buildings, and for acquiring other fixed assets—a thing which sometimes happens under our system where the banker does not make a close inquiry as to the exact purpose for which the money is to be used.

Banks in this country commonly grant lumber dealers a

separate line on the customers' paper, and discounting this does not affect the line given to them on their straight paper, that is, their own promissory notes. This is also true of acceptances. A first-class concern presenting acceptances from highly rated customers may be accommodated practically without limit, provided the bank has the money and sees no need of contracting its loans.

3. Merchandise Turnover.—In the retail trade the policy of concentrating purchases with a few high-grade houses, buying often and turning stock frequently, is desirable because it means fewer creditors and a smaller stock of shopworn and unsalable goods. It is better for a retail establishment to have as creditors a few strong wholesale houses which have a real interest in the retailer's success than to have many small creditors who are apt to cause embarrassment in time of financial stringency.

For the purpose of illustrating the significance of "turnover" in the analysis of a credit statement, the following balance sheet and statements of fact are of value:

CENTRAL SHOE STORE

Boston, Mass., December 31, 1921

Assets

Merchandise inventory	$91,500
Fixtures	6,200
Accounts receivable	5,400
Cash	1,300
Total assets	$104.400

Liabilities

Accounts payable for merchandise ($8,500 past due)	$33,500
Trade acceptances (due in 30 days)	12,000
Borrowed from individuals on notes	18,500
Total liabilities	$64,000
Proprietor's net worth	40,400
Total liabilities and net worth	$104,400

Sales for year ended December 31, 1921		$116,800
Purchase price of goods sold	$92,000	
Clerk hire	2,250	
Rent	15,500	
Expense	3,000	112,750
Net profit before personal withdrawals		$4,050
Personal withdrawals		3,600
Net profit after personal withdrawals		$450
Average merchandise inventory for year at cost		$92,800

Analysis of this statement shows that the purchase price of the goods sold during the year amounts to $92,000 and that the average merchandise inventory for the year is $92,800. Obviously the merchant has turned his stock only once during the year. If the turnover were between two and three, as it probably should be, the proprietor would carry a stock of merchandise of approximately $30,000 instead of $92,800 and would be able to liquidate at once almost his entire indebtedness. As it is, the monthly receipts are in the neighborhood of $9,700. From this figure must be subtracted the monthly charge for clerk hire, rent, and expense, of approximately $1,700, and there is left $8,000 (before allowing for personal withdrawals), which simply means that it will require the receipts of about 8 months to pay the debts.

The number of times that stock is turned over each year has a significant relation to the time within which commercial paper should mature. If the yearly turnover in a certain mercantile establishment is 4, it means that on an average 3 months are required to sell a particular lot of goods. Therefore, since commercial paper depends for its liquidation upon the convertibility of the merchandise back of it, the paper of this firm ordinarily should run for not more than 90 days.

In many cases turnover is misunderstood. For instance, a merchant carrying a stock of $10,000 and doing an annual business of $100,000 is apt to be misled with the idea that he has turned

his stock 10 times. The error in the calculation is due to the fact that the turnover has been figured on sales, whereas the stock is based on cost.

Turnover may be figured correctly according to either of two methods: one involves a calculation with the cost of stock and the cost of gross sales; the other on the basis of value of stock figured at sales price together with total sales. If we assume that in the case above mentioned the merchant has realized a net profit of 33⅓ per cent, he has turned his stock 6.67 times and not 10 times, as might be at first believed. The following illustrations are self-explanatory:

Based on cost:	
Cost of average merchandise inventory	$10,000.00
Cost of sales ($100,000 less 33 1/3% profit)	66,666.67
Turnover	6.67 times
Based on sales price:	
Sales price of $10,000 average merchandise inventory	$15,000.00
Total sales	100,000.00
Turnover	6.67 times

4. Ratio of Merchandise to Receivables.—This ratio is obtained by dividing the total merchandise inventory by the sum of the accounts and bills (notes) receivable. The resulting figure is an index of the dollars of receivables there are for every dollar of merchandise on hand. It is the general practice to carry merchandise on the balance sheet at cost or market, whichever is the lower. Accounts and bills receivable, however, represent selling price. The sale of merchandise therefore tends to increase the current ratio in favor of current assets. A comparison of the ratio of receivables to merchandise for different periods will indicate whether or not current assets include a greater proportion of profits as a result of conversion of merchandise into receivables. If this proportion be greater it might be contended that the current ratio should show an increase if the same financial strength is to be maintained. No doubt this theory has some merit, but,

particularly in a period of depression, the fact that a concern is able to market some considerable part of its merchandise at a profit is more important than the ratio of merchandise to receivables. The following examples containing two comparative statements which differ only in that $50,000 of merchandise in (a) has been converted into $75,000 of receivables and $25,000 of surplus or profit in (b) will illustrate the point:

THE X Y Z COMPANY

Assets	(a) Before Conversion of Merchandise	(b) After Conversion of Merchandise
Cash	$60,000	$60,000
Receivables	100,000	175,000
Merchandise	250,000	200,000
Current assets	$410,000	$435,000
Plant and equipment	600,000	600,000
Other assets	90,000	90,000
Total assets	$1,100,000	$1,125,000
Liabilities		
Notes payable	$125,000	$125,000
Trade acceptances	15,000	15,000
Accounts payable	45,000	45,000
Accrued taxes, wages, etc.	20,000	20,000
Current liabilities	$205,000	$205,000
Bonded debt	100,000	100,000
Total debt	$305,000	$305,000
Capital stock	500,000	500,000
Surplus	295,000	320,000
Total liabilities	$1,100,000	$1,125,000

Current ratio $\frac{410,000}{205,000}$ = 200 per cent $\frac{435,000}{205,000}$ = 212 per cent

Whereas the current ratio in (a) is 200 per cent it has been increased to 212 per cent in (b) solely as the result of $50,000

worth of merchandise being sold for $75,000, the $25,000 profit being carried in the surplus account.

5. Ratio of Net Worth to Fixed Assets.—To obtain this ratio net worth is divided by the total fixed or capital assets. The resulting figure indicates the proportion of the stockholders' or the proprietors' investment in plant and equipment or other fixed assets. Ratio of net worth[1] to fixed assets also serves to measure plant expansion. The net worth of a concern may show a large increase during a certain year as a result of profitable business. What is done with these profits, however, is of considerable importance to the bank negotiating the loan. If all the increase is turned back into buildings and equipment, there is taking place a conversion of liquid into fixed capital, and this would be shown in a falling ratio of net worth to fixed assets. There is also the danger that the profits which went into plant development may have been only apparent or book profits gained through the increasing prices of raw material rather than realized profits from the sale of manufactured goods. Too rapid expansion of plant is most likely to occur in a period of rising prices and, unless the undue development is checked, there usually results at a later period idle capital and increased overhead expense.

6. Ratio of Sales to Merchandise.—This ratio is the result of dividing the net sales for the year by the total merchandise inventory at the beginning of the year. It shows the dollars of sales for every dollar tied up in inventory. Although a low ratio of sales to merchandise may be the result of large purchases in anticipation of higher prices, it is more likely to indicate a considerable stock of unsalable goods. When this and the following ratio (section 7) are compared year by year, light is thrown on significant changes in the liquidity of the assets or in the current ratio.

[1] In the case of a corporation net worth is equal to the total sum of the capital stock, surplus, undivided profits, and reserves of the nature of surplus. Net worth of a partnership is represented by the partners' capital and drawing accounts. Net worth of a single proprietor is represented by his capital account.

The ratio of sales to merchandise is not as significant as turnover and differs only, when compared year by year with the latter, inasmuch as mark-up and cost of doing business have been included. These last two items may fluctuate in different years and consequently make this ratio of little value.

7. Ratio of Sales to Receivables.—To obtain this ratio net sales for the year are divided by the total of the accounts and bills receivable at the beginning of the year. The resulting ratio indicates the dollars of sales per year for every dollar of receivables carried on the books. This may be a test of the efficiency of the credit and collections departments, though general business conditions would affect the situation. As the ratio increases, the length of the collection period decreases. The shorter the credit terms and the closer collections are made, the less chance there will be for loss through bad debts or slowness on account of business depressions; that is, the larger the sales in proportion to the receivables, the greater will be the liquidity of those receivables.

8. Ratio of Sales to Net Worth.—This ratio is the result of dividing net sales by the net worth at the beginning of the period covered by the sales. It indicates the dollars of sales for every dollar of invested capital of stockholders, partners, or other proprietors. A business may be doing too much or too little business in proportion to the funds invested in it. If the capital investment is being turned over very slowly this may be an indication of decay in the business structure. On the other hand, a very high ratio would probably indicate an overexpansion of business operations. A ratio of this kind is principally of value in comparing conditions in the same concern for different periods and in supplementing other existing information.

9. Ratio of Total Debt to Net Worth.—By dividing the total debt by the net worth a ratio is found which serves to throw light

on the proportion that exists between the funds loaned to the concern and the capital invested by the stockholders, partners, or other proprietors. As the proportion of total debt increases, the concern becomes more dependent upon the decisions of its creditors, particularly in times when there are urgent financial problems. Moreover, an increased ratio of debt to net worth makes it necessary for creditors to place greater reliance on the moral risk of the personnel. Generally speaking, an unduly high ratio will cause the conservative credit man to investigate the risk rather closely.

10. **Ratio of Sales to Fixed Assets.**—This ratio is the result of dividing the net sales by the total fixed assets at the beginning of the year. It indicates the dollars of net sales for each dollar invested in plant and equipment and other non-current assets and therefore throws light upon the rapidity with which the fixed capital is being turned over. Ratio of net sales to fixed assets is more significant when used to supplement ratio of net worth to fixed assets (see section 5). If the ratio of net worth to fixed assets and the ratio of net sales to fixed assets are both decreasing, or if they are below normal, the conditions can probably be explained by: (1) plant development which is going on more rapidly in proportion than increase in net worth, and by (2) failure of sales to keep pace with growth in capital investments in plant and equipment. In a situation of this sort the immediate need would seem to be increased production rather than plant expansion.

11. **Judgment in Interpretation of Ratios.**—The proper use of ratios in analyzing credit statements requires good judgment for the reason that not infrequently the divisor or dividend is a fluctuating figure and may be at a high or low point when the balance sheet is issued. Many banks request information as to when stocks of merchandise are at their highest point, when

at the minimum, when current liabilities are greatest, and other similar data. Many concerns show a surprisingly different statement in July than in January with reference to the various ratios. This is so much so that banks are trying to educate their customers to make inventory statements twice a year. Concerns which are heavy borrowers often furnish their bank with a statement each month, estimating their merchandise by adding to the previous inventory purchases and deducting sales less estimated profit, or by means of a perpetual inventory.

References

Wall, A. Analytical Credits.

This presents an analysis which attempts to apply to a particular business the law of averages derived from studying the ratios of many establishments grouped as to industry and location. Illustrated with blank forms. pp. 92–232.

—— Bankers' Credit Manual. pp. 57–135.

Note: See also references at the end of Chapter XV. Each of the books mentioned contains data dealing with the ratio of quick assets to current liabilities.

CHAPTER XVII

INDIVIDUAL ITEMS OF A CREDIT STATEMENT

1. Current Assets.—In the previous chapter there were presented the broader considerations involved and the more important specific tests to be applied in the analysis of a credit statement. It was also pointed out that the banker or note-broker who has satisfied himself as to the moral responsibility of the applicant for a loan does not as a rule question the mathematical accuracy of the figures in the statement. The chief purpose of this chapter is to bring out the significance of the individual items comprising a credit statement so that a more thorough understanding of the whole may be obtained. Current assets will be considered first.

2. Cash.—Although from the viewpoint of the stockholder of a corporation a small cash balance or even possibly a bank overdraft may be more desirable than a large idle cash fund, nevertheless the banker who is extending credit is interested in seeing the cash account large enough to provide for current operations.

Many business establishments are conducted at times on so close a margin that any error in calculation leads to financial difficulties, as for instance, the inability to meet a note or the pay-roll when a remittance from a customer has been unexpectedly delayed. It is possible that a concern expects to make large cash payments within a few days after rendering its statement and therefore it is desirable to know whether or not such are anticipated.

Just what the immediate cash requirements of a firm are, varies in different lines of industry. Concerns handling merchandise on a strict consignment basis do not have the same cash problems as the ordinary mercantile establishment for the reason that pay-

ment for the merchandise is not required until it is sold. Firms also that are engaged in selling goods, such as musical instruments, that involve a relatively small expense for clerk hire and other sales costs, can operate with a comparatively small amount of cash. Finally, what the low level of the cash account should be depends to a very great extent on the character of the other quick assets and the relation of all of them to the firm's liabilities. Obviously the more liquid the other quick assets, the more readily it will be possible to convert them into cash and with this greater potential power of convertibility the less actual cash is needed.

Most commercial banks, when making loans, require their customers to keep on deposit a minimum average balance of 20 per cent of the amount of the loans, and are not inclined to extend credit thereafter unless this informal understanding has been observed.

It is highly advisable for the lending bank to be informed as to whether the cash account contains any unusual items, such as expense vouchers or IOU's of officers of the company or time certificates of deposit which have been used as collateral against existing loans. In the case of statements audited by high-class firms of public accountants it can usually be assumed that attention will be called to items of this character. Ordinarily the cash item can be verified very easily by a bank making a direct loan, as it is in a position to demand from the borrower a list of his depositories and also the amount of loans with other banks, if any. These figures can be checked by communicating with the other bank creditors.

3. **Notes Receivable (Bills Receivable).**—It is desirable in a carefully prepared credit statement to show the notes receivable account in detail, so as to indicate among other things: (1) notes from customers obtained only in the regular course of business; (2) notes from affiliated concerns; (3) notes from officials and employees; (4) notes receivable which have been discounted at

the bank; (5) notes receivable past due; and (6) description of collateral if any.

The notes receivable, also commonly called "bills receivable," should not ordinarily be a large item. A large amount of notes receivable from customers indicates that many of the customers are not of high grade, for example, retail dealers who are short of ready cash and have been obliged to give their promises to pay for merchandise. Sometimes a large item for notes receivable reflects unfavorable business conditions in the company's locality. When the notes receivable represent promises to pay by officers and employees of subsidiary or affiliated companies, the amount of such notes should be withdrawn from quick assets in the absence of good reasons to the contrary. In other words, notes receivable should be restricted to paper that represents actual sales of merchandise.

Notes receivable which have been discounted at the bank constitute a contingent liability on the basis of the company's indorsement, and indication of this fact should be made on the statement. One good method of accomplishing this purpose is to show on the one side of the balance sheet under the general heading of notes and accounts receivable the item, "Notes receivable discounted or sold with indorsement or guaranty"; and on the other side to show under the general heading of secured liabilities the item, "Notes receivable discounted or sold with indorsement or guaranty (*contra*)." Both items will appear exactly the same in amount. Another method of securing somewhat the same results is to reduce the notes receivable account by the amount of those discounted and to call attention to the contingent liability in a footnote appended to the balance sheet.

When notes receivable are secured by collateral such as stocks and bonds or real estate, it is usually an indication that the company does not feel certain about being able to collect the item promptly. Notes receivable that represent overdue or uncollectible accounts are doubtful assets because there is very

little reason why a concern should take a customer's note in settlement of an account that is good.

In certain lines of business the item, notes receivable, should be very small indeed due to trade custom, and if it is large a careful investigation is desirable. For instance, in the case of firms dealing in plumbing supplies, wholesale dry goods houses, department stores and retail establishments in general, the standard form of credit is the open book account. Wholesalers, however, are gradually supplanting some of their open accounts with trade acceptances.

4. Accounts Receivable.—Accounts receivable are simply book accounts, sometimes called "open" accounts, with the customers of the concern. An analysis of this item calls first of all for a knowledge as to whether the terms of sale allow the customers 30 or 60 days or some other period within which to make payment. By dividing the total yearly sales by the amount of the accounts receivable it is possible to determine with reasonable accuracy whether or not collections are being promptly made. For example, suppose that the terms of sale of a certain house average approximately 45 days and that the accounts receivable amount to $80,000 and sales total $650,000. In this case the sales are about eight times as large as the accounts receivable which means that outstanding accounts are not more than 1½ months' sales, and indicates that customers are meeting their obligations promptly. If a firm is selling on 30 days' credit and has on its books one-third of the year's sales, it is evident that the collection methods or class of the customers are not of the best. Forty-five days' sales would reflect a much better and quite satisfactory condition.

Accounts receivable are generally listed as accounts not due and accounts past due. Accounts receivable as a whole are sometimes divided into good and doubtful, though the latter are almost always found in the past-due list. The character of outstanding

balances should be carefully investigated, because it not infrequently happens that while a customer may be making regular payments on his account, old items which have been in dispute for a considerable period of time are being held in abeyance.

Sums due on open account from directors, officers, or employees of the company are not of the same character as trade accounts and should not be included under current assets. This applies also in the case of deposits as security, guaranties, and other special items not directly connected with sales.

Balances due on account from subsidiary or affiliated concerns, which may be operating as branches in the case of distributors, or as producers in the case of manufacturers, must not be included in the same item as customers' accounts, even if arising as a result of trading transactions. Frequently subsidiary and affiliated companies' accounts represent the actual working capital or funds advanced by the parent organization, and although such accounts may be liquidated from time to time, they are more or less of a fixed character and should preferably be excluded from quick assets. Where branch distributors or manufacturing plants are not separately incorporated, no indebtedness of any kind with the main office should appear as an asset. The merchandise, cash, or advances that may have been made to the branch are simply subdivisions of the resources of the company as a whole and should be treated as such in the balance sheet.

Trade discounts (and also so-called "cash discounts," if exceeding 1 per cent) and freights allowed by the concern are important matters for consideration. If such items have been included in accounts receivable, although it is not the general practice to handle trade discounts in this manner, a reserve to offset them should be listed under current liabilities (or, what is equivalent, be shown as a deduction under quick assets). Cash discounts in practice are seldom deducted from receivables and amount in some lines to 5 per cent. It is also necessary to obtain information regarding customers' claims for rebates, allowances because of

defective material, and reductions in prices, in order to determine whether sufficient provision has been made for these items in the statement.

No matter how promptly the customers of a company may meet their obligations, it is usually necessary to provide for a certain percentage of doubtful or uncollectible accounts. This is accomplished by setting up a reserve for bad debts which is shown on the balance sheet, preferably on the assets side, as a deduction from accounts receivable, or else on the liabilities side as a separate item. Normal loss will determine the extent to which it is necessary to provide for bad or doubtful accounts, and this is a matter which naturally varies in different lines of business. In some cases a reserve equal to 1 per cent of accounts receivable may prove adequate, whereas in other cases 3 per cent may be insufficient.

As an evidence of the fact that bad debts are ordinarily just as unavoidable as many other expenses in a concern doing business on open account, a well-known sales manager has been quoted as stating that he would "fire" a credit manager who succeeded in reducing bad debts to zero, implying, of course, that such a policy would be so strict as to drive away many customers.

Inquiry must be made as to whether any of the accounts receivable have been hypothecated or assigned, and if so the balance sheet should indicate the fact. Numerous private bankers and other houses, and to some extent regular commercial bankers, make it a business to loan to concerns on their accounts receivable, or more exactly to purchase these debts, particularly in the case of manufacturers and wholesalers. Accounts can be assigned openly by notifying the customers, or arrangements can be made so that customers do not know that their accounts have been sold. When accounts receivable have been assigned or pledged, they are no longer an asset and should not be classed as such. Moreover, until they have been settled they remain a contingent liability for their ultimate payment and therefore

this fact should be shown on the balance sheet either as an appended note or under the general heading of secured liabilities bearing the caption, "Customers' accounts discounted or assigned (*contra*)."

5. **Merchandise.**—Merchandise, including in the term finished product, goods in process, and raw material, often constitutes the major portion of current assets and is the most difficult of them to appraise correctly. It has become the custom to insist that merchandise be inventoried either at cost or at market price, whichever is the lower. The purpose of this policy is to prevent the inflation of the assets by the recording of profits before they are actually realized through the sale of the goods. When the market price is below cost some credit men and accounting firms are of the opinion that cost less the usual profit should be the inventory figure, that is, if an article has been purchased for $1 to sell at a 20 per cent profit (figured on selling price) and the retail market price falls to $1, the proper inventory figure would be 80 cents. Deduction of the profit is to be justified principally because of the further shrinkage in value due to selling and administrative expenses properly chargeable against gross profits from merchandise.

Continuing on this point one writer states:

> When we consider, however, the next economic step in manufacture and distribution, the book account, or the bills receivable, we do not find that this cost proposition exists. We do not hear it argued that the accounts and bills receivable should be carried on the statement at cost; and there is a large question as to whether or not such a plan would be feasible, equitable, or even possible. We are then confronted with the fact that, in the current assets, we have merchandise figured at cost, and receivables at cost plus. It seems very evident that if at any time any manufacturer or merchant billed out his entire inventory, transforming it into receivables, there would be a considerable increase in the total amount of the current assets, which would not make neces-

> sary any increase in the current debt, as has the cost of manufacture. It might be a mere bookkeeping transaction, accomplished easily and injecting into the current assets an amount equivalent at the very least to the entire expected profits on the transaction.[1]

The above discussion of billing out the whole inventory to make a profit seems overtechnical. If it be legitimate, well and good; no harm has been done. If it were done to deceive, it would be a fraudulent transaction. Careful outside investigation of the borrower's character would show, no doubt, that the moral risk was not first class.

The proper basis of an inventory appraisal is largely a matter of opinion, but whatever method is followed should be clearly indicated somewhere in the credit statement or the accompanying data. Particularly in a period of falling commodity prices a statement should indicate whether cost or present values were used in figuring the inventory and also the depreciation that has taken place from the time the statement was made.

In the business depression of 1920 and 1921 many concerns got into financial difficulties largely on account of unusual shrinkage in inventory values and greatly diminished sales coupled with heavy debts. However, even in times of active business the merchandise account is very often a comparatively slow asset, particularly in the case of a manufacturing concern. The raw material must be put through the various factory operations, the finished goods must be sold, and finally 30 or 60 days' credit must be extended before cash is collected.

Since it is not feasible in most audited statements for the accountants to supervise personally the taking of the inventory or to make an independent appraisal, much reliance must be placed on the integrity of the borrower to furnish an honest inventory. Besides the matters mentioned, however, there are a number of other points to be observed in examining the merchandise ac-

[1] Alexander Wall, "Study of Credit Barometrics," *Federal Reserve Bulletin*, March 1, 1919, pp. 229–243.

count and they may be stated as given below. In most of these cases, to be sure, the person who is analyzing a credit statement must place reliance on the accuracy of the public accountant who has made the audit, or else on the integrity of the company itself.

1. In a business where the average gross profit remains fairly constant it is possible to obtain a dependable check upon the inventory, provided the inventory figure for the beginning of the fiscal period is correct. The so-called "gross-profit" test consists of adding to the previous inventory the purchases and deducting the sales at cost. The percentage of gross profit is also compared with that of previous years and in the case of a business which operated on a fairly constant rate of gross profit, any discrepancy will usually be due to errors in stock-taking. Suppose, for instance, that the net sales of a company amounted in 1920 to $640,000 and the cost price of the goods sold was $520,000. The gross profit would be $120,000, or 18.8 per cent.[2] Also let us assume that after the closing of the books in 1921 the following data are shown:

Net sales	$780,000
Opening inventory	100,000
Purchases (net)	800,000
Closing inventory	300,000

From these figures we would arrive at a gross profit of $180,000 or about 23.1 per cent.[2] If this increase in percentage of gross profits of 4.3 per cent can be explained by business conditions, then probable accuracy of the inventory has been established by the test. But had there been reported a closing inventory of $100,000, a loss of $20,000, or 2.5 per cent, would result. The change of 21.3 per cent would suggest that something was wrong, and if unexplained by the increased costs of material, labor, and overhead, the conclusion might be drawn that the closing inventory figure was inaccurate.

2. Where the basis of inventorying is the company's own

[2] Sales, and not cost, used as basis of computing profit in this instance.

manufacturing cost, it should be ascertained whether such cost includes any overhead charge for interest. It is customary for cost accountants to exclude interest from inventory figures even if it has been included in factory overhead. In short it is the general policy to exclude interest, selling expenses, and administrative expenses from inventory prices.

3. Trade discounts should be deducted from inventory prices, but it is not customary to deduct cash discounts.

4. When goods consigned to others are included they should be valued on the same basis as other merchandise, and proper allowance should be made for loss, damage, or expenses of possible subsequent return.

5. In the event of an abnormally large merchandise account it is desirable to ascertain the reason in order to be sure that there has been no serious error in stock-taking. Large quantities of stock on hand may be the result of business foresight in buying in a low market, or lack of business foresight. In some cases an unusually large inventory is necessary because of the concern's distance from its source of supply. Seasonal conditions, such as the Christmas holidays, may also affect the inventories.

6. Import duties and freight charges are considered proper additions to the cost price of goods, but no other items should be added except under special circumstances.

7. If a company has discontinued during the year the manufacture or sale of any of its products, the inventories of such items should be carefully scrutinized.

8. It should be ascertained that nothing has been included that has been sold and billed and is simply awaiting shipment.

9. Sometimes errors are made in not including under liabilities unpaid invoices for merchandise received at or just previous to the time of inventorying.

10. If a company has taken steps to increase the selling price of its goods, obviously the inventory has a higher potential value than before.

11. The inventory and gross sales may have an important connection and should be compared. Some merchants prefer to accumulate a large stock of old goods rather than to dispose of them below cost. If the turnover has been abnormally small it may be due to a poor stock of goods.

12. Particularly important is the matter of insurance on merchandise as well as on the plant and equipment. In this connection it is well to explain briefly the so-called "80 per cent rule" which is widely in force in the insurance business and which is not generally understood. If the insured does not carry insurance to the amount of 80 per cent of the value of the property, in the event of loss or damage he can only recover such proportion as the amount of the insurance carried bears to the 80 per cent which he should have carried (and consequently becomes a coinsurer for any deficiency). For example, if the property is worth $10,000 and $6,000 insurance is carried, in case of a loss of $3,000 the insured could recover only three-fourths of the loss, or $2,250. The reasonableness of the 80 per cent clause can be illustrated. If one owner who pays a premium on $6,000 has a loss of $3,000 and recovers in full and another pays a premium on $8,000 and suffers a similar loss, the burden has been unequal.

6. Acceptances Held.—When companies sell their merchandise on an acceptance basis, the acceptances are, of course, available for discount by bankers, or for disposal in the open market. This obviates to a large extent the necessity of a company's borrowing on its own note. The discount or sale of such acceptances, unless "without recourse," constitutes a contingent liability. Acceptances, both bankers' and trade, are treated at length in a separate chapter.

7. Current Liabilities.—The liabilities in which the buyer of commercial paper is most concerned are: (1) notes payable (bills payable), (2) accounts payable, (3) acceptances, (4) reserve for

income and excess profits taxes, (5) other current liabilities, (6) bonded indebtedness that will mature within the year, and (7) contingent liabilities.

8. Notes Payable (Bills Payable).—Notes and bills payable are used synonymously and include notes given for purchase of merchandise, notes sold to banks, notes sold in the open market, and notes payable to stockholders, directors, officers, friends, and relatives. Often notes are also given for equipment, are made payable in instalments, and are secured by a chattel lien on the equipment. Notes of this character are not a liability to be included in the statement unless the property which they represent is listed as an asset, in which event the two corresponding items should be treated as contingent assets and contingent liabilities.

What is regarded as a sound credit principle in one line of business may not apply at all in another. The giving of notes for merchandise is still customary in some trades[3] and is not regarded as a sign of weakness, as in the raw silk industry, with tobacco-packers, with manufacturers of agricultural implements, and with jobbers in sparsely populated sections of the country. In most lines of staple commodities, however, it is not the practice to issue notes, and their appearance is immediately a danger signal indicating that the company is short of working capital.

Generally speaking, a concern should not have two forms of paper outstanding at the same time. If merchandise purchases are settled by note or by acceptances and the concern negotiates a loan at the bank on its single-name paper, a bad impression is created because the loan at the bank implies cash payments for the merchandise. Similarly, if notes are sold on the market for the purpose of taking cash discounts, the persons from whom the goods have been purchased should not be given notes or acceptances.

If the borrower's statement shows an odd amount for notes

[3] Meredith Wood, "Credit Danger Signals," *Bankers Magazine*, June 1920.

payable it is almost certain that the item contains notes of the firm given for purchases. When single-name paper is submitted to a bank for discount or is sold in the open market, it is issued in round amounts and therefore the presence of odd cents is indicative of the existence of other kinds of paper. Sometimes, however, this odd amount is due to the fact that the company has accepted deposits of money from directors, officers, friends, or relatives in return for its notes and has credited the notes payable item with the interest accumulations. A further explanation of this odd amount might be the practice of some companies of deducting the unearned interest charge on their discounted notes. Still another reason might be the fact that the firm has included its commitments through the acceptance by its banks of drafts drawn under commercial letters of credit.

In general, where a company has borrowed on notes from its stockholders, directors, or officers, or from friends and relatives, it is very apt to experience internal friction and financial embarrassment in the event of trouble. Sometimes loans of this character are used as the means by which control of management is secured. Naturally, if a stockholder, director, officer, or a friend has made large loans to a company in return for its promissory note, he will be able to exert considerable influence over the business and possibly by threatening to demand payment may be able to secure control of affairs. Unless it is sufficiently certain that a company's indebtedness of this kind has been definitely subordinated to the general creditors and is fixed in the business for a specific period, such an item should not be considered a slow liability.

Deposit accounts with the firm present a somewhat similar disadvantage. If they are large they may prove a source of danger to creditors other than the depositors, unless withdrawals are restricted. These depositors are usually persons who have associations with the company and are first to know of its financial troubles and to protect themselves by withdrawing their funds.

Another danger signal is flashed when a concern is obliged to settle for its minor bills by giving its note. An incident illustrating the ever-alert credit sense of one of our well-known American bankers is pertinent at this point.

> This banker had been purchasing at frequent intervals for his institution the commercial paper of a large and supposedly prosperous trade house, regarding it as a prime banking investment. The latest maturity of the company's note had been properly liquidated several months before, and the local broker had offered him a substantial amount of the concern's paper again, which he now held under option, and was considering buying. Quite accidentally he happened to run across something which many other men would have passed over without very much thought, in view of the company's generally strong and well-established reputation: he found that one of his depositors, who had been selling the concern in question in small amounts, had received quite unexpectedly the company's note for a small bill amounting to two or three hundred dollars. The banker learned of this and immediately sent the paper back to the broker. "We loan no concern which has to pay for its minor bills by giving its note," he said. It was simply a slight bit of warning, the single flash of a red flag, which his keen credit sense detected at once. Eight months later the company in question closed its doors and failed.[4]

Commercial paper should never be issued for financing of permanent or fixed assets. Plant, machinery, and equipment should represent contributed capital and funds received from the issue of bonds and other long-term obligations. It is not the function of a commercial bank to finance investments of this kind. The scope of its activities is confined for very good and obvious reasons to short-time loans of a liquid character.

When possible a credit statement should classify the notes payable so as to indicate those which were given directly to the banks of the company and those which were sold in the open market. The former are not so much a source of concern as the latter, because it is more probable that they can be renewed with-

[4] Meredith Wood, "Credit Danger Signals," *Bankers Magazine*, June 1920, p. 833.

out difficulty in case of necessity. Their existence limits the firm's borrowing capacity, however, and places it in a less favorable position to ask for assistance from its bank if the occasion arises.

Inquiry should be made in a study of the notes payable item to learn whether any collateral has been pledged with them. If collateral has been furnished with some of the notes but not with others, a considerable source of danger may exist for the unsecured creditors.

Notes payable may be given directly for merchandise or they may be substituted later for accounts payable. Notes of this latter character are apt to indicate that merchandise discounts have been neglected and a large volume of such notes given for goods bought some time previously expresses at once an unhealthy condition.

The term "renewal" when used in connection with commercial loans often gives rise to erroneous opinions. For the purpose of financing current transactions it is customary for merchants and others to borrow funds from banks on notes. When a note matures it is not unusual for a new one to be given in its place and this is commonly called a "renewal." However, if the merchandise bought from the proceeds of the original note has been disposed of in the trade of the merchant and the new note is for the purpose of making further purchases, the new note is not strictly speaking a renewal but represents in reality a new loan. So long as the bank is not furnishing funds for fixed capital, there is no reason why it should not continue making these new loans at the expiration of the old ones. An examination of the borrower's credit statement showing for comparative periods the margin of quick assets, the sales and purchases of merchandise will indicate the quality of the note, which is the real test.

9. Accounts Payable.—This term represents purchases on open credit charged on the books of the sellers against the buyer

and to be settled on stated terms. Comparatively speaking, the amount of accounts payable outstanding should never be large. A well-managed concern will borrow money at its bank in order to obtain cash discounts for prompt settlements. If a man whose credit is good can borrow money at 6 per cent per year, it is poor finance to borrow money at 2 per cent for 20 days or 36 per cent per year, as he is doing when he is offered 2 per cent discount in 10 days but pays net in 30 days. A large accounts payable item is, therefore, a warning to the analyst that the concern is probably neglecting its merchandise discounts. Assuming that the terms on which the concern buys merchandise are 2 per cent discount if settled in 10 days, if the unpaid bills represent 10 days' purchases they would not be excessive.

If a company issues notes to its creditors or to its bank, the amount of accounts payable should be particularly small. In some statements the accounts payable item includes only accounts in process of audit, often barely a day's purchases, which is an excellent sign of good management.

If the statement has not been audited by public accountants, care should be taken to learn whether debts for all goods received on the last day of the fiscal period, and also for any merchandise that was in transit and belonged to the concern on that date, are included as liabilities, and the corresponding assets included in the inventories. Concerns often hold up entries at the end of the year and do not include considerable amounts of merchandise in transit. Apropos of this point a credit man with a well-known mercantile agency tells of a company whose audited statement showed an increase in merchandise from $300,000 to $400,000 with a similar increase in debts and largely for this reason was refused a loan at its bank.

10. **Acceptances Given.**—This item includes trade and bank acceptances. For the purpose of making the statement as explicit as possible acceptances should be shown separately from notes

and bills payable. As already stated in the section dealing with notes payable, a concern should not issue acceptances and another form of paper at the same time. While the use of acceptances is as yet decidedly limited, it is anticipated that as business men become more accustomed to this kind of paper it will be more generally used. A more complete discussion of acceptances is presented in a separate chapter.

11. **Reserves.**—The term "reserve" in a financial statement is used commonly in three different senses. It may indicate an offset or valuation account as reserve for depreciation; it may be of the nature of surplus, as sinking fund reserve or reserve for additions and betterments; or it may represent accrued liabilities as taxes and wages. Reserves for depreciation usually represent the estimated depreciation of one or more of the fixed assets from which they must be deducted to determine their real book value. Reserves for bad or doubtful accounts are another important class of valuation reserves and must be offset against accounts receivable to obtain the estimated value of the latter. There is a tendency at present to list valuation reserves on the resource side of the balance sheet where they are shown as subtractions from the corresponding assets. As a further step in simplifying the balance sheet terminology and technique, many statements use the term "allowance" instead of reserve.

Reserves of the nature of surplus are less common than the other kinds of reserve, and when they occur they usually can be recognized. They can be considered simply as surplus items for special purposes, and do not come under current assets or liabilities.

Until the government has materially reduced the income and corporation taxes, the statement of every borrower should show a provision for this liability. As the tax is specifically based upon the net profits of a particular period, although payable some months thereafter, the tax accrues throughout the specified

period and should be properly indicated on the balance sheet. Very often this reserve will amount to hundreds of thousands of dollars, and since it is a quick liability that will have to be paid within a comparatively short period of time, it is essential that it be carried on the statement. If a concern has a large federal tax bill to meet and fails to give some evidence on its statement of the impending obligation, it is probably because the statement indicates a rather weak current ratio.

One writer describes the statement of a house offering its paper in the open market which appeared to show obviously this condition of affairs. Its current ratio for 1918 had been much more favorable than for 1919, a substantial reserve amounting to about $300,000 having been carried in the 1918 figures. As no reserve at all appeared on the 1919 statement it was natural to assume that the concern had decided that by simply omitting this item altogether its absence would perhaps be overlooked and the ratio would benefit accordingly. But a concern which finds it expedient to practice such a method should realize that this very fact of attempted concealment will often injure it much more than telling the plain truth.

12. **Other Current Liabilities.**—Ordinarily the current liabilities that have just been described include all the important ones from the point of view of the bank analyst. Most balance sheets include other minor items in addition to those given and in some cases it may be desirable to examine them in detail. The more important of these remaining items include: accrued liabilities on account of interest, wages, traveling expenses and commissions, legal expenses, and incidental operating charges. However, it is not within the province of this book to take up individually each of these accounting details, and moreover a satisfactory treatment of them will be found in almost any standard book on accounting, to which the reader is referred for detailed information.

13. Bonded Indebtedness that Will Mature within the Year.—Ordinarily the bank analyst is not interested in the outstanding bonds and other long-term obligations of a company. When, however, such obligations are to mature within the current year they become of the same general character as an ordinary current liability. It is entirely possible that the statement of a concern will show a not unsatisfactory risk from the point of view of the bank, even if the relation between its total assets and total liabilities is such that the net worth is practically zero. If the bulk of the liabilities are represented by bonds that do not mature for a period of years, their existence will be no great source of danger to creditors holding short-term notes and other obligations maturing in the meantime. Of course if the concern's financial standing is such that the interest obligations on bonds cannot be met, the situation of the general creditors will be entirely different.

Merchandise is not infrequently sold by concerns to customers whose financial standing indicates a larger amount of bonds outstanding than justified by present assets but which do not mature within the period of payment specified in the sale. To be sure, there is a considerable amount of risk in dealing with concerns of this character for the reason that other symptoms are quite likely to appear on closer examination.

14. Contingent Liabilities.—The most common form of contingent liabilities is that brought about through the practice of indorsing and discounting notes receivable and acceptances, which feature has already been discussed in the section dealing with notes receivable. Other forms of contingent liabilities may be found in connection with the indorsement of outside paper, and the financing of subsidiary companies. Arrangements with subsidiary companies often involve indorsement of current borrowings, guaranty of merchandise obligations, and the guaranty of their funded debts. A contingent liability sometimes arises out of leases and contracts and other activities peculiar to some lines

of business, the existence of which may be recognized when met. Contracts to accept the delivery of goods forwarded before the date of the credit statement may call for the payment of large sums of money within a short time. In the case of raw materials for a manufacturer this might be a perfectly good reason for seeking a temporary loan pending production and sale, but for a merchant whose statement shows a large stock of goods on hand it might indicate a real liability impending with assets of a doubtful character to offset it. A properly prepared audited statement would indicate whether such purchase orders stood for stock in excess of the current and reasonable prospective demand. Where the contingent liability has been brought about through the financing of subsidiary companies, it may be necessary to inquire into the financial conditions of the latter organizations. It is not unusual for a subsidiary company to prove to be a burden instead of a source of profit for the parent organization.

15. Capital Assets and Capital Liabilities.—Although the ability of a company to show on its statements a substantial excess of current assets over current liabilities is the most essential thing for the purpose of the bank analyst, nevertheless it must be borne in mind that concerning any set of figures it is necessary to view them as a whole rather than to compare only one or two groups and to rest the entire decision on the results of the showing made by these few. By confining the analysis to only one phase of credit some very important danger signals may be completely overlooked.

One point of special significance, particularly since the war, is the relative size of the company's plants compared to its net worth. During the war the enormous increases in volume of business stimulated plants to increase their size rapidly in order to keep up with the large amount of orders which they received. Rising prices, continued demand, and expectation of increasingly large profits spurred many concerns to invest all their available

liquid capital in additional expenditures for plant and equipment. Naturally a cessation in demand and a falling off in prices left the companies in question with the greater portion of their assets completely tied up in machinery and buildings, and with a comparatively small net working capital. While an addition to a plant may outwardly be a sign of prosperity and an increased volume of business, the real situation may be quite the opposite. Instead of large orders and growing sales there may take place a gradual deflation of an already unwarranted demand, with the result that the concern is left stranded, overextended in capital assets, and lacking the requisite amount of required funds to carry it along.

In some lines of trade, as in cotton mills, fixed assets have a greater liquidating value than is the case in many other manufacturing industries. The machinery and equipment in a cotton mill are for the most part standardized. Moreover, a large part of it can be moved without great difficulty. Second-hand machinery is frequently purchased and moved from one mill to another. These things tend to cause the fixed assets to have a greater potential power of liquidation. However, it must be remembered that a bank always wishes, if possible, to avoid the necessity of attaching property or forcing the sale of it in order to insure a claim. Measures of this kind are a last resort; hence in looking upon the borrowing company as a self-liquidating account the bank analyst can consider only the quick assets in the shape of cash, bills receivable, accounts receivable, merchandise, etc., of primary significance.

16. Income Sheet (Profit and Loss Account, Revenues and Expenses, etc.).—A bank will frequently find it possible to judge a concern's standing much more accurately by consideration of its sales and expenses of doing business in connection with its statement of assets and liabilities. In the case of a partnership the income sheet or profit and loss statement will often reveal the

fact that the members of the firm are making too heavy withdrawals for personal expenses. The income sheet shows whether or not the firm is keeping track of the cost of running the business and also whether or not it is making a profit. Not infrequently a credit risk is rated primarily upon whether the prospective borrower is going ahead with a profit or falling backward with a loss.

It is the conventional practice for the income sheet to start with the item, sales. Sales includes all merchandise (that is, whatever goods the firm is manufacturing or marketing, and does not include sales of its fixed assets or investments), whether cash, on open account, or for notes or acceptances during the fiscal period under consideration. Sales should only include valid transactions which legally transfer to the purchaser the title to the merchandise. Goods shipped on consignment or on approval should not appear in the statement as regular sales, but, of course, should be properly included in the inventories. When it is customary to allow trade discounts, either the amount of such discounts should be excluded from sales, or there should be provision for showing it as a deduction or an offset under some such caption as "trade discount on sales."

17. Importance of Sales Returns.—In some lines of business the item of sales returns is an important one. An examination of this account will determine just what percentage of the sales are returned and whether this undesirable feature is increasing or decreasing. Where possible a statement should separate cash sales from sales on credit. This information is of value when determining the relation between the customers' unpaid accounts and the total charge sales for the period. To be more concrete, suppose the annual sales on credit on open account were $900,000 and that the average term of credit granted is 30 days, and that the current assets show $150,000 under accounts receivable. If it were known that the firm's monthly sales were fairly uniform

and that no extraordinarily large sales had been made recently, it would be reasonable to infer that either the firm's collection methods were lax, or else that accounts receivable included some bad and doubtful items. Assuming that under normal conditions there will be an appreciable number of customers who will discount their bills, a firm that is selling goods on 30 days' credit should be able to prevent its accounts receivable from exceeding 2 months' sales.

18. Comparison of Sales and Inventory.—For the purpose of testing the efficiency of the management it is desirable to compare the total sales and the final inventory. In making this comparison, however, consideration must be given to the nature of the goods or more particularly to the time required to replenish stock. If the total sales of a manufacturing concern amount to $1,500,000 and the final inventory shows a balance of $600,000, it would seem fairly conclusive that there is too much money tied up in stock-in-trade. The conclusion would be more certain if it were found that the manufacturing operations required on the average about 3 weeks.

If the gross profit on sales for the fiscal period in question was substantially the same as for the preceding periods, the probability of inventory inflation would not be great. On the other hand, it is quite possible that the inventory includes some dead stock and goods out of style, or goods for which there is no profitable market. Moreover, the concern may have overestimated its requirements for raw materials or may have manufactured more heavily than subsequent sales justified. Before arriving at final conclusions, however, it is necessary to obtain further facts and to examine them in the light of market conditions. During a period of rising prices and keen business activity the purchase of large quantities of raw materials to anticipate future needs may prove to be a prudent and highly profitable transaction. But when the market begins to sag, the situation becomes reversed

and companies which have large stocks of merchandise may be required to register in their expense accounts millions of dollars because of shrinkage on inventory values.

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Any standard book on accounting deals with the items of a balance sheet and profit and loss statement. See especially:

Cole, W. M. Accounts, Their Construction and Interpretation.
Interpretation of balance sheets, pp. 104–109.

Hatfield, H. R. Modern Accounting. pp. 35–69.

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Note: See Appendix A, Problem 20.

CHAPTER XVIII

ANALYSIS OF TYPICAL CREDIT STATEMENTS

In this chapter a number of typical credit statements are given, with an analysis of each. The first, that of the Cotton Mill Corporation, is dated September 1, 19—, and is as follows:

COTTON MILL CORPORATION

September 1, 19—

Assets

Current:		
Cash	$118,364.43	
Accounts receivable	50,115.38	
Notes receivable	1,663.21	
Inventories:		
Cotton	121,667.70	
Finished goods	123,525.64	
Stock in process, supplies and waste	216,747.59	$632,083.95
Fixed Assets:		
Real estate	$50,465.37	
Buildings and fixtures	637,076.71	
Machinery	830,501.12	
	$1,518,043.20	
Less: Reserve for depreciation	405,142.21	1,112,900.99
Total assets		$1,744,984.94

Liabilities

Current:		
Accounts payable	$238,096.48	
Notes payable	630,695.30	
Accrued:		
Labor	13,213.80	
Taxes—domestic	6,934.92	
Employees' deposits and uncalled-for wages	4,266.03	$893,206.53
Reserve for federal taxes		21,500.00
Capital stock	$1,000,000.00	
Less: Impairment	169,721.59	830,278.41
Total liabilities		$1,744,984.94

Sales	$305,160.00
Net loss	15,650.00

This statement indicates such a poor financial condition that the concern could hardly expect to obtain a bank loan. Current assets are less than current liabilities, and in order to show a current ratio of 2 to 1 it would be necessary to treble current assets. It seems evident that collections are slow, since the receivables represent an amount in excess of 2 months' average sales. Notes payable alone are almost equal to total current assets, and the latter includes raw material and stock in process, which probably cannot be liquidated before the maturity of the notes. Not only has the surplus account disappeared but there is an impairment of the capital investment; that is, the equity of the stockholders in the business is less than the face value of the capital stock. Finally, during the year the company did not earn enough to pay operating expenses and suffered a loss of $15,650. It would appear from all these facts that bankruptcy cannot be far off unless the stockholders contribute more working capital or provision is made for funding some of the current debts.

FIRST METAL PRODUCTS COMPANY

COMPARATIVE BALANCE SHEETS ON DECEMBER 31, 1919, 1920, 1921

	Assets		
	1919	1920	1921
Capital assets:			
Land and buildings	$75,000.00	$75,000.00	$75,000.00
Machinery and equipment	23,849.14	24,139.85	25,412.26
Furniture and fixtures	5,624.36	5,879.63	6,283.22
Good-will	40,000.00	40,000.00	40,000.00
Total	$144,473.50	$145,019.48	$146,695.48
Working and trading assets:			
Materials and supplies	$27,349.23	$28,172.40	$17,275.19
Finished goods	15,763.88	22,587.15	32,260.55
Total	$43,113.11	$50,759.55	$49,535.74

Assets

	1919	1920	1921
Current assets:			
Cash	$18,429.60	$10,010.18	$5,073.49
Notes receivable	9,323.22	8,275.31	8,052.50
Accounts receivable	20,641.73	27,153.71	23,910.13
Total	$48,394.55	$45,439.20	$37,036.12
Prepaid expenses:			
Insurance	$800.00	$1,200.00	$1,500.00
Advertising	.....	1,300.00	2,100.00
Total	$800.00	$2,500.00	$3,600.00
Total assets	$236,781.16	$243,718.23	$236,867.34

Liabilities

	1919	1920	1921
Capital liabilities:			
Capital stock outstanding	$125,000.00	$125,000.00	$125,000.00
Mortgage on land and buildings	40,000.00	40,000.00	40,000.00
Total	$165,000.00	$165,000.00	$165,000.00
Current liabilities:			
Accounts payable	$8,015.72	$14,059.87	$19,399.77
Notes payable	5,000.00	15,000.00	17,000.00
Accruals	3,264.20	4,173.24	2,431.50
Total	$16,279.92	$33,233.11	$38,831.27
Reserves:			
Depreciation of buildings	$10,451.75	$12,701.75	$14,951.75
Depreciation of machinery and equipment	6,204.79	7,806.34	9,293.72
Depreciation of furniture and fixtures	1,160.66	1,748.62	2,241.35
Total	$17,817.20	$22,256.71	$26,486.82
Profit and loss surplus	$37,684.04	$23,228.41	$6,549.25
Total capital, liabilities, reserves, and surplus	$236,781.16	$243,718.23	$236,867.34
Net sales	$143,259.04	$115,047.31	$108,955.49
Net profits	31,925.75	10,544.37	8,320.84
Dividends	25,000.00	25,000.00	25,000.00

The comparative financial statement of the First Metal Products Company indicates that the company is in a very unsatisfactory condition, if not one of practical insolvency. The current ratio has decreased materially in the last three years, and on December 30, 1921, the current assets are less than the current liabilities. However, in all justice to the company it should be noted that inventories of materials and finished goods are not carried under current assets, as is the common practice. If such were done the current ratio might seem at first sight satisfactory, but further examination is necessary to throw light on the character and quality of the quick assets. The cash balance in 1921 is much too small for the needs of the business. The ratio of receivables to sales has increased so rapidly that in 1921 there are between 3 and 4 months' average sales not collected. This not only implies poorer collection methods but also arouses the suspicion that many of the accounts are bad or doubtful. It would appear from the heavy inventory of finished goods, which doubled from 1919 to 1921, while sales decreased, that greater difficulty is being experienced in marketing them and that the company is unwisely tying up large amounts of capital in slow-moving merchandise.

Finally at a time when the company is in serious need of cash there has been maintained a high dividend rate. In order to declare this dividend it has been necessary to draw upon the surplus created in former years and diminish it to almost one-sixth of its amount in 1919.

COLONIAL UNDERWEAR MANUFACTURERS

November 30, 19—

Assets		*Liabilities*	
Cash	$308,165.16	Bills payable to banks	$685,000.00
Bills receivable	12,500.00	Bills payable to individuals	10,500.00
Accounts receivable	463,705.03		
Stock on hand and in process	566,816.96	Accounts payable for mdse	57,246.57

Investments in affiliated companies....	99,300.00	Accounts payable to individuals.....	60,983.57
Real estate.....	650,019.64	Reserve for dividends	42,000.00
Machinery and fixtures.....	809,787.01	Reserve for taxes....	46,646.22
		Reserve for depreciation.....	733,499.85
		Capital stock.....	600,000.00
		Surplus.....	674,417.59
	$2,910,293.80		$2,910,293.80

Sales.....	$4,520,492.00
Net profits.....	121,194.00
Dividends.....	51,000.00
Allowance for depreciation.....	70,194.00

No contingent liabilities.

This statement, while showing a fair margin of current assets to protect creditors, indicates that the business is being operated to a considerable degree on the temporary investment of the creditors. For example, the item, bills payable, is greater than capital stock and is more than one-half as large as capital stock and surplus combined. The current ratio is 1 1/2 to 1, or somewhat less than a 2 to 1 condition which bankers expect a good statement to reveal. The merchandise condition is favorable, there being only slightly over one month's goods on hand, although it is apparent the concern is doing too much business for the capital employed.

The item, investments in affiliated companies, represents controlling interests in several firms, and it would be advisable to request a consolidated statement so that an analysis of the whole might be made. The profits show a satisfactory earning ability but it would seem to be a good policy to accumulate the profits instead of paying out large dividends. It would also be advisable to capitalize part of the surplus and reserve funds which are too large for the capital now invested. Collections apparently are satisfactory, as receivables show outstanding accounts representing not more than 1 or 2 months' average sales.

STATEMENT FOR INFORMATION OF BANKS AND OTHER CLIENTS OF R. P. ROSS & CO., WHO MAY BE INTERESTED IN BUYING THE FOUR MONTHS' NOTES OF THE STANLEY MANUFACTURING COMPANY

R. P. ROSS & CO. NOTE-BROKERS

18 Tenth Avenue
Boston, Mass.

Members New York and
Boston Stock Exchanges

14 Exchange Place
New York City
220 South LaSalle St.
Chicago

The facts and information herein, although not guaranteed by us, have been obtained from sources which we believe to be reliable and are given without any responsibility on our part.

Confidential

STANLEY MANUFACTURING COMPANY

Boston, Mass. December 31, 1921

Assets

Cash	$1,498,359.63
Accounts and notes receivable	2,270,938.02
Merchandise and material on hand	6,941,108.12
Company's stock held for sale to employees	34,129.86
Supplies, prepaid interest, and insurance	150,582.87
	$10,895,118.50
Plants, water powers, warehouses and lands	10,495,728.83
	$21,390,847.33

Liabilities

Capital stock, common	$8,000,000.00
Capital stock, preferred	4,000,000.00
All debts	1,221,478.32
Reserve for United States income tax payable following year	750,000.00
Reserve for inventory depreciation	1,200,000.00
Surplus funds	6,219,369.01
	$21,390,847.33

(Signed) STANLEY MANUFACTURING COMPANY
By Charles A. Russell, Treasurer

Springfield, Mass. February 9, 1922. Incorporated in Massachusetts.
Manufacture twine, bagging, etc.
Plants at Springfield, Mass.; Boston, Mass.; and Savannah, Ga.
During year ended December 31, 1921, spent $1,878,784 on addition to plant.
Charged to depreciation $512,486.
Sales $21,000,000.
Bank with:

National Shawmut Bank	Boston
Bank of America	New York
National Bank of Commerce	Springfield
Merchants National Bank	Springfield
State National Bank	Springfield
Savannah Union Bank	Savannah

The foregoing statement of the Stanley Manufacturing Company, which has recently sold to its note-brokers, R. P. Ross and Company, $4,000,000 of 4 months' notes bearing 6 per cent interest, indicates that this firm is in an excellent financial position and reveals a source of strength which commends the paper to prospective buyers as being of the highest grade. The particular points of merit in this company's paper are as follows:

1. The ratio of current assets to current liabilities is approximately 10 to 1.

2. The cash account is ample and is more than sufficient to meet any immediate obligations.

3. R. P. Ross and Company state that the company is a seasonal borrower and sells its notes once a year for the purpose of financing the purchase of raw materials. When the finished goods have been sold and the proceeds received the notes are liquidated. This fact makes its paper more desirable than the offerings of a company which has some paper outstanding at all times.

4. The ratio of accounts and notes receivable to sales is small, indicating that the company's collection methods are satisfactory.

5. The ratio of merchandise and material on hand to sales would not seem to indicate an excessive inventory. Allowing for the profit there is about a 3 months' supply of goods on hand.

6. Reference to statements for previous years also shows good credit conditions.

7. Most important of all is the moral risk. Trade references, which have been investigated by R. P. Ross and Company, and the company's past record, give evidence of the high character and integrity of its personnel.

References

Kniffin, W. H. Commercial Paper.
Analyzes in detail 35 typical credit statements, pp. 90–159.

Note: See Appendix A, Problems 21–24.

CHAPTER XIX

SECURITY AND OTHER INVESTMENTS OF COMMERCIAL BANKS

1. Security Holdings of Banks.—In addition to making short-term loans and discounts many commercial banks invest in securities, generally bonds. These may be regarded as long-time loans; but as their date of maturity is distant their liquidation into cash is not contemplated unless the bank is in urgent need of funds. Their current value is also subject to fluctuations, depending upon stock market operations, possible changes in the market rate of interest, and more than all upon the fortunes of the companies whose securities are bought. Funds so invested are withdrawn from immediate mercantile and manufacturing needs in the marketing of goods, and throught he securities are directed to construction or development of plant, as in the construction of railroads, public utilities, municipal enterprises, factories, etc., or to the financial needs of governmental bodies. This business is more generally undertaken by bond houses, sometimes designated as investment bankers (whose function is to distribute securities to investors) as distinguished from commercial bankers. Although this distinction is recognized, commercial banks at times find it advantageous to invest a part of their funds in long-time securities. Particularly is this the case when there is a slackening in the demand for short-term loans. Rather than hold funds idle, the banks purchase bonds which will yield an income.

2. Classes of Securities.—Securities generally appear in the balance sheet of a national bank under four headings:

1. United States government securities, including the older issues of bonds, Liberty bonds, Victory notes, United States certificates of indebtedness.
2. Stock of federal reserve bank.
3. Other bonds, securities, etc. (other than stocks).
4. Stocks other than federal reserve bank stock.

Investments in securities by national banks in 1920 (June 30) are shown in the following table. Figures for loans and total resources are also given for purposes of comparison:

	Millions
United States government securities owned	$2,269.6
Stock of federal reserve banks	65.3
Other bonds, securities, etc	1,802.2
Stocks other than federal reserve bank stock	49.4
Total securities	$4,186.5
Loans and discounts	12,396.9
Total resources	22,196.7

The securities may be further classified:[1]

	Millions
United States bonds other than Liberty bonds	$815.4
Liberty loan bonds and Victory notes	1,454.1
Total United States obligations	$2,269.5
State, county or other municipal bonds	338.4
Railroad bonds	416.4
Other public service corporation bonds	283.1
All other bonds (domestic)	309.8
Claims, warrants, judgments, etc	67.7
Collateral trust and other corporation notes issued for 1 to 3 years	145.9
Foreign government bonds	180.0
Other foreign bonds and securities	61.0
Stocks, federal reserve banks	65.3
Stocks, all other	49.4
Total securities of all classes	$4,186.5

Formerly national banks were obliged to own a certain amount of government bonds and pledge them with the Treasury

[1] Report of the Comptroller of the Currency, 1920, Vol. I, p. 159.

as a condition for organizing under a federal charter, but in 1917 (Act of June 21) this condition was repealed. National banks, however, must own certain issues of these bonds in order to issue circulating notes; and they also hold and pledge them with the Treasury in order to receive federal deposits. Of the $2,270 million United States obligations, held by national banks, about one-third was owned and deposited to secure circulation. During the financial operations of the war, the banks played a large part in underwriting the loans and the purchase of Liberty bonds, Victory notes, war savings and thrift stamps, and United States certificates of deposit, and the banks still hold a very considerable amount of government obligations then purchased, in addition to the older issues held as a basis for national bank notes.

The investment in federal reserve bank stock is compulsory. Each member bank of the system (a national bank must be a member) is required to subscribe 6 per cent of its own capital and surplus to the capital stock of a federal reserve bank. As yet only half (or 3 per cent) has been called for.

"Other bonds" represent state, county, or municipal bonds; railroad bonds; other public service bonds; foreign bonds; miscellaneous bonds; claims, warrants, etc.; judgments and collateral trust and other corporation notes. Holdings of this character in 1920 amounted to about one-seventh of loans and discounts. In 1880, the ratio was 1 to 20; in 1890, 1 to 16; in 1900, 1 to 7; and in 1910, 1 to 6. The marked change in this ratio took place between 1890 and 1900 when there was an enormous amount of financing in the organization of large corporations in which many banks took an active part.

Some classes of bonds are used by banks as a pledge to secure state and municipal deposits and also to secure acceptances of foreign banks.

3. Policy as to Amount of Securities.—It is sometimes stated that investments in securities may properly equal the sum of

capital stock, surplus, and undivided profits; in other words, that it is appropriate that a bank should apply the funds belonging to stockholders to fixed and permanent investments, and base its current operations upon deposits which may be offered and loans which may be sought. If this rule be applied for national banks as a whole, it will be noted that in 1920 investments in securities are much in excess of capital (including surplus and undivided profits). The holdings of securities amounted to $4,187 million and capital to $2,622 million.

This large excess of security investments was due to the liberal purchases by banks of government obligations during the war. In 1915, before such demands were made upon the banks, security holdings amounted to $2,038 million and capital to $2,079 million.

Individual banks, however, vary greatly in their policy with regard to investing in securities. For example, one bank may have over $2,000,000 of securities, and capital of $300,000; while another has securities, amounting to $350,000, and capital of $225,000. The loans of the two banks are approximately the same. It is evident that the first bank finds it more profitable to invest its funds in long-term securities, while the second uses its funds in short-term loans which are quickly liquidated. This may indicate that business is dull where the first bank is located and that consequently there is no demand for commercial loans; or it may mean that the bank is using its resources in industrial promotions. Of even more significance are the figures for security holdings when compared over a series of years. If these amounts increase with no increase in capital or in loans, it indicates that the bank is turning from commercial to financial banking.

4. Objections to Large Security Holdings.—As to the wisdom of using bank funds in security investments to the extent which is now common, opinions differ. On the one hand, it is said that

there is no difference between a bond and a note, except in time of maturity. Investments in sound securities which can be converted into cash serve as a secondary reserve in case of need. There are times when the demand for loans is light, so that a bank cannot employ its resources profitably. The low rates of money in 1903 and 1904 are in particular cited as reasons for large investments in those years. A bank in buying bonds loans to a railroad or government as it does to an individual on a note. The growth of corporations makes it necessary for them to borrow, but corporate financing demands a different form of credit obligation than that used by individuals or partnerships. If banks were prohibited from loaning to corporations by purchase of bonds, corporations in selling bonds would be obliged to borrow from private individuals alone, but these in turn, in order to make advances, would borrow from banks, so that indirectly the net results would be the same. When business establishments were small, local credit was sought for; with the consolidation of scattered units into the large corporation or trust, local financing was abandoned and credit demands were met by issues of securities.

On the other hand, it is urged that banks by loaning to corporations on long loans, even though they be salable, are neglecting commercial business, which requires short-time loans. The function of a bank is to facilitate commerce and not to operate as a finance company. The latter introduces a speculative element into banking, by making the banks a powerful factor in the stock market. Through temporary investments in bonds a bank may be tempted into promotion of new securities which have unstable value. Moreover, if a panic occurs good securities cannot be sold except at a loss, thus crippling the bank at a time when it should be able to support credit.

This critical attitude may be illustrated by an extract from a report made to the National Monetary Commission in 1911 by Professor J. H. Hollander:

> From whatever point of view regarded this apparent necessity under which American banks now labor of tying up large parts of their loanable funds in stock-exchange securities is unfortunate. It offers an unhealthy stimulus to corporate financiering by supplying a temporary and fictitious market for investment securities. It invites speculative gains and losses by the fluctuation in market price in the interval between purchase and liquidation. It curtails mercantile accommodation by the bank's reluctance to liquidate such securities in a declining market, and it injects an additional element of risk into banking stability in the temptation to invest in less seasoned and more productive bonds.[2]

5. Investment in Stocks.—As a rule the amount of corporation stocks which a national bank holds is small. Stock is of a more speculative character than bonds. A stock does not have maturity, while a bond is ordinarily a promise to pay with a definite period to run. Under a ruling of the Comptroller of the Currency, a national bank is not permitted to invest in a stock except when taken in payment of debt, and then may hold it only for a limited time. During the war permission was granted to invest not exceeding 10 per cent of the bank's capital and surplus in any domestic corporation engaged in foreign financial operations necessary to facilitate the export of commodities.

6. Banking House and Equipment.—Other items of investment appearing among resources are "Banking house," "Furniture and fixtures," and "Other real estate owned." The first two are self-explanatory. A national bank is not permitted by law to invest in real estate, except as may be necessary to carry on its business. It may, however, if permission be granted by the Comptroller of the Currency, own a building larger than is needed for its own requirements and rent the remainder. The object of the law is to prevent investment in property which is not readily salable. The item, "Other real estate owned," is not

[2] Bank Loans and Stock Exchange Speculation, p. 18.

a contradiction of this principle. It refers to real estate acquired in the settlement of loans which debtors have not paid. The bank, however, is under obligation to dispose of such holdings within a limited period.

References

Westerfield, R. B. Banking Principles and Practice. Vol. IV, pp. 1022–1028.

CHAPTER XX

CASH HOLDINGS AND RESERVE OF A COMMERCIAL BANK

1. **Need of a Reserve.**—Reserve has a special technical significance in American banking practice, since both state and federal statutes require banks to maintain a reserve against deposits. The nature of the reserve has varied; it may consist of cash in the bank's own vault; or a part may be cash and a part in the keeping of other banks; or the entire amount may be represented by balances with other banks. A bank may also be required to keep a reserve against its note issues as well as against its deposits. All of these methods have been in operation at one time or another in American banking history.

A distinction is to be made between cash and reserve. Cash is actual money which the bank holds in its vault, while reserve may include balances with other banks which can be drawn upon immediately to reinforce cash. A bank needs to hold cash for three purposes:

1. To meet the demands of depositors who wish actual money.
2. To redeem bank notes, if presented.
3. To pay to borrowers who wish immediate cash instead of credit as a deposit account.

Few national bank notes, however, are presented for redemption at the bank's own counter, as their security is never in doubt, so that the need of money in hand for this purpose may be disregarded. Few borrowers take any large amount of actual cash and the strain from this demand is small. The principal importance of a cash reserve is to meet the demands of depositors who

need cash and to make payment for current operating expenses. Depositors do not all draw checks simultaneously. Inasmuch as a bank is constantly receiving checks drawn against other banks which tend to counterbalance the amounts drawn against it, experience shows that it is safe to carry on its operations with but a small amount of cash.

2. Reserve of National Banks under Old Law.—In order to understand the present law governing the character and amount of reserves required of national banks, it is desirable to describe briefly the older reserve system in operation before 1914. Until that year national banks were required to keep reserves in lawful money as follows:

1. Country banks, 15 per cent, of which three-fifths might be deposited in a bank in a reserve city.
2. Reserve city banks, 25 per cent, of which one-half might be deposited in a bank in a central reserve city (New York, Chicago, St. Louis).
3. Central reserve city banks, 25 per cent in their own vaults.

A central reserve city must have a population of 200,000; and a reserve city 25,000 (previous to 1903, 50,000). Not all cities, however, which can satisfy the population requirements are made central reserve cities or reserve cities. There are but three central reserve cities—New York, Chicago, and St. Louis—and about 60 reserve cities. All banks outside of the central reserve cities and reserve cities are called "country" banks.

Lawful money included gold and silver coins, gold and silver certificates, legal tender notes, and clearing-house certificates (see Chapter XXI) issued against coin or legal tender. Banks were also permitted to include in this reserve the 5 per cent redemption fund deposited with the Treasurer of the United States. A bank might, therefore, carry part of its reserve in its own vaults, and a part with other banks which, to that extent, acted as their agents.

3. **Reserve Requirements Illustrated.**—Under this reserve system (treating the note redemption fund in the United States Treasury as in the bank's vault), deposits of $10 million in country or non-reserve city banks, would call for a cash reserve to be kept in their own vaults of but $600,000. They would carry and count as reserve $900,000 on deposit with reserve city banks. These reserve city banks would be required, to protect the deposits of the country banks, to have in their vaults cash to the amount of only $112,500, and might deposit $112,500 in central reserve cities, who, in turn, would have to have on hand 25 per cent, or but $28,125 in cash. This may be summarized in the form of a table:

CASH RESERVE ON DEPOSITS OF $10,000,000 IN COUNTRY BANKS

	Amount of Deposits	Cash Reserve in Vaults	Deposited with Reserve Agents
Country banks	$10,000,000	$600,000	$900,000
Reserve city banks (amount as above deposited by country banks)	900,000	112,500	112,500
Central reserve city banks (amount as above deposited by reserve city banks)	112,500	28,125	.....
Total	$11,012,500	$740,625	$1,012,500
Per cent of total deposits	.....	6 3/4	9 1/5
Per cent of deposits in country banks	.....	7 2/5	10 1/8

Amount of cash outside original country banks $140,625, or 1.4 per cent.

It will thus be seen that the country bank was obliged to keep 6 per cent on hand in cash, and of the country bank's reserve deposits the city banks kept 1.4 per cent on hand in cash. There might therefore be but 7.4 per cent of cash, or $740,625 held

unloaned anywhere against this deposit of $10 million in the country banks.[1]

Under this system any city which had a population of 25,000 could become a reserve city on the application of three-fourths of the national banks in that city. To become a central reserve city a population of 200,000 was required. There were nearly 50 reserve cities (only one, Boston, in New England), and only three central reserve cities—New York, Chicago, and St. Louis. Other cities might have qualified as central reserve cities but did not seek this distinction, as it would have obliged all national banks in such city to increase their cash reserves to 25 per cent. Although any national bank in a reserve city might act as a reserve agent upon permission of the Comptroller of the Currency, this service was concentrated in the hands of but a few banks. In New York six banks held three-quarters of the reserves for country banks, and in Boston the same proportion was held by two banks.

Country banks availed themselves of the privilege of keeping a part of their reserve in reserve cities for two reasons: (1) because the reserve banks paid a small rate of interest, generally 2 per cent on the balances deposited, so that the reserve was not altogether profitless; and (2) country banks must keep funds in a bank in a large commercial city in order to oblige their customers who wish to buy exchange to make payments in these centers.

4. Reserve under the Federal Reserve Law.—Under the old law all cash which a national bank held might be counted as part of its reserve. The federal reserve law, enacted in 1913 (amended June 21, 1917), changed this. A distinction is made between cash and reserve. The reserve is kept in the form of credits with a federal reserve bank. Cash in bank no longer constitutes part of the reserve, but simply serves the purpose of till money.

[1] Report of the Comptroller of the Currency, 1907, p. 72.

The new law requires every member bank in the federal reserve system to maintain in a federal reserve bank a deposit known as "reserve balance" or "due from federal reserve bank," to secure the member bank's liability to its own depositors. The proportion of such reserve varies, as under the old law, depending upon whether the institution be a country bank, is in a reserve city, or in a central reserve city. The ratios are 7, 10, and 13 per cent respectively against demand deposits, and 3 per cent against time deposits for all institutions, without regard to their location. Under the former system the cash holdings of banks were scattered and, particularly in times of emergency, could not be made effective when there was the greatest strain; under the new system the cash reserve is held by the federal reserve banks to secure their liabilities to the member banks and is thus centralized in 12 large reservoirs. The significance of this will be further explained in a subsequent chapter.

A "country" bank needs less reserve than a bank in a city of metropolitan size, for the withdrawals of cash are likely to be less. There is a greater probability that checking accounts will be settled simply by transfer of credits within the bank; and withdrawals for settlement with other banks are less likely to be urgent. The variations in reserve requirements according to whether a bank be "country," in a reserve city, or in a central reserve city, with the new reserve rules of the federal reserve law are not altogether logical. Formerly it was clearly necessary that a reserve city bank should hold a larger reserve than a country bank, as it might hold the reserves of country banks which could be called for at any time the latter found advantageous. The amount of such withdrawals could not be calculated with as great precision as the withdrawals of cash by individual depositors. Now, however, no national bank keeps the reserves of other banks and consequently this protection is no longer needed. The federal reserve system inherits the classification of the old system with the result that a bank in a city as large as Providence,

Rhode Island, with a population of 237,595 (1920) holds a reserve of but 7 per cent, while a bank in a reserve city, as Peoria, Illinois, with a population of 76,121, is obliged to hold 10 per cent. In so far, however, as banks hold funds of banks in other cities to meet the demand for domestic exchange, the need of variations in reserve requirements is justified.

In addition to the reserve carried with the federal reserve banks, the banks hold cash in their own vaults. This may be regarded as till money needed to meet the current day-to-day demand of customers for actual cash. The amount thus required is determined by experience rather than by law, and is much less than is generally supposed; in 1920 it was less than 5 per cent of all deposits.[2]

5. **Amount of Reserve Held.**—The following table shows the amount of deposits, the reserve required, the amount held by federal reserve banks, and the per cent of actual reserve to deposits, for national banks in the several groups, September 12, 1919:[3]

RESERVE POSITION OF NATIONAL BANKS, SEPTEMBER 12, 1919

(Amounts in thousands)

Locality	Deposits	Reserve Required	Held by Federal Reserve Banks	Per Cent of Deposits
Central reserve cities:				
New York	$2,586,604	$336,259	$362,743	14.02
Chicago	629,184	81,794	82,450	13.10
St. Louis	160,342	20,844	19,932	12.43
Reserve cities	3,604,661	360,466	365,920	10.15
Country banks	5,293,481	370,842	398,488	7.53
All banks	$12,274,272	$1,170,205	$1,229,533	10.02

[2] Report of Comptroller of Currency, 1920, Vol. I, p. 115.

[3] Report of Comptroller of Currency, 1919, Vol. II, pp. 224–229.

Taking the country as a whole, the reserves of national banks were $59 million in excess of the legal requirement.

The amount of reserve which a bank has in proportion to its liabilities is not necessarily a measure of its strength. Idle money in the vaults of the bank is not earning anything. A bank's profits come from its loans and investments. A well-managed bank therefore seeks to invest all its funds beyond what is needed to meet current demand, maintain public confidence, and satisfy legal requirements as to reserves. It is the quality of the loan account, by far the largest item among the resources, which in the last analysis determines whether the depositor is amply protected.

6. Relation of Reserve to Loans and Deposits.—The amount of reserve bears an intimate relation not only to deposits but also to loans, for, as seen in the chapter on deposits, loans and deposits are in great measure complements of each other. Disregarding, for the moment, the provisions of the Federal Reserve Act providing for the holding of the reserve as a credit balance by the federal reserve banks, instead of allowing it to rest in the vaults of the individual banks, this relationship of loans, deposits, and reserve may be illustrated as follows: There is but a single bank in a given community and this has a capital of $100,000. The balance sheet reads:

1

Cash	$100,000	Capital	$100,000

It is now assumed that there are 100 customers of the bank, all of whom are depositors. It is also assumed that the bank is required to keep a certain cash reserve against its deposits, say, 10 per cent. The clients of the bank deposit $10,000 in cash, an average of $100 each. The balance sheet then reads:

2

Cash	$110,000	Capital	$100,000
		Deposits	10,000
	$110,000		$110,000

One of the customers, A, of the bank now applies for a loan. If he wishes cash, the bank can loan $109,000 without impairing the reserve protection of deposits. Omitting all calculations of interest or discount and the item, undivided profits, the balance sheet will read:

3

Loans	$109,000	Capital	$100,000
Cash	1,000	Deposits	10,000
	$110,000		$110,000

What becomes of the cash loaned out? On the assumption that this is a self-contained community, that there is no other bank into which the cash can flow, and that the cash will not be transferred to any other community, it is obvious that it will not be long before it flows back to the bank. Some of the other 99 customers of the bank will receive it and deposit it in the bank. If it be assumed that the community already has all the pocket and till money needed in ordinary every-day exchange, all this cash, $109,000, will reappear at the bank in deposits. The balance sheet will then read:

4

Loans	$109,000	Capital	$100,000
Cash	110,000	Deposits	119,000
	$219,000		$219,000

But the borrower may not take out his loan in cash; he may receive a credit as a deposit and the statement will read:

5

Loans	$109,000	Capital	$100,000
Cash	110,000	Deposits	119,000
	$219,000		$219,000

This is the same statement as No. 4. The borrower now proceeds to make payments in checks, drawing against his de-

posits. His checks are received by other business men in the town and are by them deposited. A's deposit is decreased, but B's and C's deposits are increased by the same amount, and there will be no change in the balance sheet, even if A checks out all of his own deposit.

Can the bank make further loans and if so, to what extent? B may now apply for a cash loan. The bank, as before, must keep a cash reserve of 10 per cent on its deposits of $119,000, or $11,900. The bank can thus loan $98,100, and the balance sheet reads:

6

Loans	$207,100	Capital	$100,000
Cash	11,900	Deposits	119,000
	$219,000		$219,000

Again the cash is passed from hand to hand and within no long period is again deposited. The statement then appears:

7

Loans	$207,100	Capital	$100,000
Cash	110,000	Deposits	217,100
	$317,100		$317,100

Or, if borrower B does not take cash but a deposit credit, the statement will at once appear as in No. 7.

This process can be continued until deposits reach $1,100,000, or ten times the cash reserve. Deposits in these transactions are due, not to any increase in cash, but to loans which have been advanced upon satisfactory collateral.

In brief, if there were a single bank with which all the people of the business community did their banking, and if the cash reserve against deposits should be set at various times at 5, 10, and 16 2/3 per cent, the amount by which the bank could expand its loans for each additional dollar of cash deposited would be $19, $9, and $5, respectively.[4] On the other hand, where several

[4] The dollar deposited will, of course, require its own reserve.

banks are established in the community there is no possibility of any one being able to expand its loans ten times for each cash deposit and maintain cash reserves of 10 per cent. This is because of the cash withdrawals and the necessity for settling unfavorable clearing-house balances. However, for the banking system as a whole the possibility of expanding loans and deposits is quite the same as already described where a single bank for the community has been assumed.

7. Relation of Reserve to Loans and Deposits for Individual Banks.—If there are several banks in a community, involving withdrawals of cash from one to another, each bank must retain a larger reserve than the foregoing analysis would imply. Assume that in a certain community there are a number of banks and that they handle all the local business; also assume that each time a loan or discount is made, 80 per cent is withdrawn by check, the 20 per cent being left on deposit; and in addition that the banks are required to keep cash reserves of 10 per cent against deposit liabilities. In order to simplify the illustration it is also assumed that the 80 per cent cash withdrawal from bank W is paid to individual depositors of bank X, etc. The cash withdrawal from one bank thus becomes an additional cash deposit for the next bank which extends loans and discounts as before and in turn is subject to a similar percentage of cash withdrawals. The accompanying table starts with the receipt by bank W of $10,000 cash deposits. On the basis of this cash the bank decides to extend its loans and discounts to a point where the resulting net additional deposits, after allowing for a cash withdrawal of 80 per cent of the proceeds of these loans and discounts, leaves the bank with the necessary cash reserve of 10 per cent.

The amount by which deposits created by loans and discounts may be expanded on the basis of a certain amount of additional cash can be determined either by a mathematical equation or by process of trial and error. For purposes of simplifying the illus-

tration the latter plan has been chosen and a reserve of slightly less than 10 per cent is maintained. It is thus found that bank W can expand its loans approximately $11,000 on the basis of the receipt of $10,000 cash deposits. After cash withdrawals have been made the net additional cash leaves a reserve of 9.836 per cent, or slightly less than the required 10 per cent. The actual possible expansion of loans, therefore, under the conditions given would be slightly less than $11,000. The cash withdrawal of $8,800 from bank W becomes an additional cash deposit for bank X, which goes through the same operations.

TABLE SHOWING RELATION OF RESERVE TO LOANS AND DEPOSITS FOR INDIVIDUAL BANKS

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
Bank	Additional Cash Deposits	Additional Deposits Created by Loans and Discounts	Cash Withdrawal 80 Per Cent of Column (c)	Net Additional Deposits Created by Loans and Discounts Columns (c)–(d)	Net Additional Cash Columns (b)–(d)	Total Net Additional Deposits Columns (b)+(c)–(d)	Percentage of Cash Reserve, or Ratio of Column (f) to (g)
W	$10,000.00	$11,000.00	$8,800.00	$2,200.00	$1,200.00	$12,200.00	9.836
X	8,800.00	9,680.00	7,744.00	1,936.00	1,056.00	10,736.00	9.836
Y	7,744.00	8,518.40	6,814.72	1,703.68	929.28	9,447.68	9.836
Z	6,814.72	7,496.19	5,996.95	1,499.24	817.77	8,313.96	9.836

It will be observed from the table that each bank on the basis of a given cash deposit is able to increase its loans 110 per cent of the sum so received, while the resulting deposits, after the withdrawal of 80 per cent of the loans, are approximately 120 per cent of the cash deposits. To be more exact, column (g) in each case is 22 per cent greater than column (b), assuming a percentage of cash reserve, column (h), of 9.836 instead of 10.

If the tabulation were carried out for other banks, column

(g), Net Additional Deposits, would continue to show a constantly decreasing figure for each successive bank and the total of this column would be the amount by which all banks in the aggregate could expand their deposits arising from loans. This total is $101,667, or slightly more than 10 times the original additional cash deposit of $10,000 in bank W. If a reserve of exactly 10 per cent instead of 9.836 per cent had been maintained, the total expansion would be precisely $100,000 for the banking system as a whole, as it was for the single bank which we assumed did all the business (page 278).

8. Export and Import of Gold.—One further observation should be made. If the original cash deposit of $10,000 in bank W has resulted from withdrawals from some other bank in the same country, there is no new basis for expansion of loans for the banking system as a whole. But if this cash represents gold, imported or mined in the country, expansion for banks in the aggregate would be possible.[5]

Suppose, for example, that all national banks held $884 million of cash reserve, the law requiring a 10 per cent legal reserve against $8,840 million of deposits; $1 of cash supports $10 of deposits. If cash were reduced by $50 million withdrawal through export of gold, the ratio of cash reserve against deposits would be below the legal limit. The only way to retain the legal equilibrium between cash and deposits would be to reduce the loans, thus decreasing the deposits. If $884 million cash be reduced to $834 million, the new reserve could support only $8,834 million of deposits, and it would consequently be necessary to reduce loans by $500 million. The decrease in loans does not of itself increase cash, but it reduces the amount of deposits. So, too, an influx of gold will increase the loaning power of banks many times the amount of the gold, if the loans are taken in the form of deposit accounts.

[5] See note at end of chapter.

The illustration given above presupposes the exportation or importation of gold. If the transfer of $50 million were made within the country, there would be no change in the loaning power of *all* banks, for the withdrawal from one bank would reappear as cash in another bank. It would then perform the same service as in the bank from which it was transferred, so that theoretically there would be no change in the total loans and deposits of all banks. Withdrawal of cash (gold) by export, or its gain by import, therefore, has far more important consequences than domestic losses or gains of cash which do not affect the total volume of cash within the country.

9. **Procedure in Maintenance of a Reserve.**—If a bank has a reserve which is near the legal limit, it must decline to make further loans even if there were an informal agreement that a considerable part of the loan were to be left on deposit and not withdrawn in cash.

Although there is no penalty imposed upon a bank when its reserve is less than the legal ratio, it is under pressure by the Comptroller of the Currency to restore its reserve as quickly as possible, and the National Banking Act forbids the bank to make further loans or to declare a dividend until the deficit is made good. There are various methods by which a bank can increase its reserve, but generally it is effected by decreasing its loans rather than by the sale of securities or increase of cash through deposits. It has been explained that deposits are largely due to loans and do not bring actual cash into a bank. To increase deposits through loans obviously increases the amount which must be held in reserve and places the bank in a still more precarious condition; the payment of outstanding loans will increase cash or, if paid by checks drawn on the bank itself, reduce deposits, in either case increasing the ratio of cash reserve to deposits.

In contracting its loans a bank in normal condition, and even

in periods of emergency, rarely takes the position of refusing to loan, especially to its long-established clients. Such refusal would create irritation and be destructive of the good-will which is so large an asset in successful banking. Borrowing, however, is discouraged by an advance in the discount or loaning rates; and as a portion of the bank's loans, particularly in the larger cities, are demand loans, this advance will lead to immediate payment by some borrowers and tend to lessen the strain which other borrowers might exert. As time loans are constantly maturing, the bank is thus enabled to maintain its reserve above the danger point. On the other hand, if there is surplus cash the bank will lower its discount rate so as to attract borrowers and thus keep its funds profitably employed. It is thus through its loaning department that the bank adjusts its reserve.

With the establishment of the federal reserve banking system the maintenance of the reserve of the individual bank has been made much easier. The member bank may not only transfer cash to the federal reserve bank but also rediscount some of its commercial paper with the federal reserve bank and obtain a credit in return. Through these credits the bank is able to meet demands which would otherwise reduce its reserve. The significance of these changes in reserve methods is discussed in subsequent chapters.

10. Computation of Reserve of a Member Bank.—Under present procedure the reserve of all banks and trust companies which are members of the federal reserve system are maintained in a federal reserve bank. Using the balance sheet shown on pages 138–140, the computation is made as follows:

DEMAND DEPOSITS

1. Deposits, other than United States government and bank deposits, payable within 30 days	$1,546,145.47	(33)
Less: "our checks" (17 d, a)	60,944.83	
	$1,485,200.64	

Due to Banks

2. Balance due to all banks other than federal reserve bank*...	$62,829.70	(30)	
3. Balance due to federal reserve bank—deferred credits.....	24,829.81	(28)	
4. Cashier's, secretary's, or treasurer's checks on own bank outstanding.....	78,846.55	(34)	
5. Certified checks outstanding...	16,482.26	(31)	
Total due to banks (items 2, 3, 4, and 5).....	$182,988.32		

Less: Deductions from Bank Deposits

6. Balances due from banks other than federal reserve bank and foreign banks.....	$39,713.17 1,838.93	(13b) (14)	
7. Items with federal reserve bank in process of collection.....	.....		
8. Exchanges for clearing house...	.....		
9. Checks on other banks in same place.....	1,648.91	(16)	
Total deductions from bank deposits (items 6, 7, 8, and 9).....	$43,201.01		
10. Net balance due to banks†.....			$139,787.31
11. Total demand deposits (items 1 and 10).....			$1,624,987.95

Time Deposits

12. Savings accounts (subject to not less than 30 days' notice before payment).....	.....		
13. Certificates of deposit (subject to not less than 30 days' notice before payment).....	.....		
14. Other deposits payable only after 30 days.....	.....		
15. Postal savings deposits.....	$7,893.25	(41)	
16. Total time deposits (items 12, 13, 14, 15).....	$7,893.25		

* "Balances due to all banks other than federal reserve bank" (item 2, demand deposits) should include balances due to foreign banks.

† Should the aggregate "due from banks" (items 6, 7, 8, 9) exceed the aggregate "due to banks" (items 2, 3, 4, 5) both amounts must be omitted from the calculation.

Reserve Required

Demand deposits:		
Banks in central reserve cities, 13% of item 11		
Banks in other reserve cities, 10% of item 11		
Banks outside reserve and central reserve cities, 7% of item 11	$113,749.15	
Time deposits:		
All banks 3% of item 16	236.79	
Total reserve to be maintained with federal reserve bank		$113,985.94

Reference to item 11 of resources in the balance sheet shows that the bank has as lawful reserve with the federal reserve bank $168,016.50, which is in excess of the legal requirement.

In computing the reserve certain deductions from deposits are allowed. The bank not only holds the deposits of other banks but it has deposits in other banks. If the latter (not including the deposit in the federal reserve bank) is less than the former, that amount may be subtracted in order to determine the net amount of bank deposits for which the bank is obliged to maintain a reserve. The amount "due to banks" includes not only items 28 and 30 in the balance sheet, but also certified checks (31) and cashier's checks (34), listed among liabilities as "certificates of deposit." From the amount "due to banks" are subtracted items 13(b), "due from banks," and 14(a), "our checks."

The item of "our checks," $60,944.83, is regarded as a cash item. These checks are held as cash each night, owing to the fact that the ledgers close at noon each day and the checks do not go on to the individual accounts on the ledgers until the following day. These checks have been actually paid and are held in cash as above stated, and are thus deductible from deposits.

NOTE: Professor Chester A. Phillips in a recent notable volume on "Bank Credit" has made a clear mathematical exposition of the limitations which restrict individual banks operating in a group when each is subject to demand from the others. If there be but one bank or if all banks be amalgamated in one system, the net deposit of a given amount of cash, c, against which there must be held a reserve-deposit ratio of R, would enable the bank to lend in addition to outstanding loans:

$$\frac{1}{R}(c - Rc)$$

or

$$\frac{c - Rc}{R}$$

or

$$\frac{c(1 - R)}{R}$$

"The deposit arising from the cash, c, would itself call for a reserve equal to Rc, leaving $c - Rc$ as reserve for deposits arising from additional loans" (p. 39).

If the reserve ratio be 10 per cent and the cash deposit $100, the equation would be solved as follows:

$$\frac{1}{.10}(\$100 - \$10) \text{ or } \frac{\$90}{.10} = \$900, \text{ answer}$$

A distinction is made between primary deposits and derivative deposits: "A primary deposit is one that arises from the actual lodgment in a bank of cash or its readily convertible equivalent, such as checks or drafts drawn on other banks, but not made in anticipation of the payment of a loan. By a derivative deposit is meant one which arises directly from a loan or which is accumulated by a borrower in anticipation of the repayment of a loan." A primary deposit is fairly stable; a derivative deposit is "extremely variable in magnitude." "A derivative deposit is superimposed upon the primary balance and, at the initial date of the relative loan, rises at once to a high point, falls away during the early period of the loan, then as the loan-maturity approaches rises more or less gradually to a peak and, when the loan is paid, drops precipitately to the initial and basic level" (pp. 40–41).

Dr. Phillips presents the following formula for the determination of the amount that any given *individual* bank in a system can add to its item of loans and discounts on the basis of additional reserve deposited with the bank. Abbreviations are used for the following terms:

c = additional cash or reserve.
c_1 = overflow cash, i.e., what a bank tends to lose as the result of making the additional loans.
x = loan expansion resulting from additional cash.
r = ratio of cash or reserve to deposits.
k = ratio of derivative deposits to loans.

Since $(1-k)$ is equal to the percentage of loans checked against by borrowers, it follows that:

$$c_1 = (1-k)x$$

"Since the lending banker will make his loans of such an amount that the cash left in the bank after the overflow cash has been paid out will be equal to the reserve required for: (1) the original cash deposit, and (2) the derivative deposits arising from the loans, $(rc + rkx)$ would equal the cash which the banker would have to retain as reserve, c being the *amount* of the cash deposit and kx being the *amount* of the derivative deposits, and r being the reserve-deposits ratio. If $(rc + rkx)$ is retained by the bank, the amount of overflow cash, c_1, may be found by subtracting $(rc + krx)$ from c. Hence:

$$c_1 = c - (rc + krx) \text{ or } c - rc - krx$$

Since c_1 is also equal to $(1-k)x$,

$$(1-k)\,x = c - rc - krx$$

Transposing:
$$krx + (1-k)\,x = c - rc$$

or
$$(kr + 1 - k)\,x = c - rc$$

and
$$x = \frac{c - rc}{kr + 1 - k}$$

or
$$x = \frac{c\,(1-r)}{kr + 1 - k}$$

The above formula may be applied to a concrete case as follows: cash equals $1,000; reserve-deposits ratio equals 10 per cent; and derivative deposit-loan ratio equals 20 per cent.

$$c = \$1{,}000$$
$$r = .10$$
$$k = .20$$

$$x = \frac{1{,}000\,(1 - .10)}{.02 + 1 - .20} = \frac{900}{.82} \text{ or } \$1{,}097.56$$

If checks drawn by borrowers are in favor of depositors of the drawers' bank, there will be no corresponding loss of cash by the bank and to that extent the formula calls for qualification (p. 57).

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CHAPTER XXI

THE CLEARING HOUSE

1. Purposes of a Clearing House.—A bank holds among its resources a number of items which represent credit claims in process of settlement and conversion into cash. Among these are to be noted:

Items with federal reserve banks in process of collection.
Exchanges for clearing house.
Checks on other banks in the same place.
Outside checks and other cash items.

For the settlement of many of these claims the ingenious mechanism of a clearing house is used.

The operations of a clearing house are based on a simple arrangement maintained by an association of banks for the purpose of facilitating the daily exchange of checks and drafts and settlement of balances. In the development of this primary purpose new ideas have been gradually added with the result that in recent years the clearing house has possessed efficient machinery for providing united action among the members in all matters affecting their mutual welfare and in questions of business stability and public interest.

In the United States the use of a clearing house for banks was first advocated in 1831 by Albert Gallatin, a banker, and at one time Secretary of the Treasury. Some twenty years later the principal New York banks, recognizing the necessity of a more convenient arrangement for exchanging their checks and notes, organized a clearing-house association with approximately fifty members. Thereafter the organization of other clearing houses in this country followed rapidly.

2. Mechanism of a Clearing House.—The most important feature of a clearing house is the plan and not the organization or the building and its equipment. For the sake of simplicity the plan may be illustrated by supposing that three banks have formed a clearing-house association. Each day the clearing house receives from bank A checks drawn on B and C; from B checks drawn on A and C; and from C checks drawn on A and B. On a certain day A presents checks on B for a total of $10,000 and on C $15,000; B presents checks on A $8,000 and on C $12,000; C presents checks on A $9,000 and B $15,000. These figures can be shown in tabular form:

TABLE SHOWING BANK CLEARINGS AND BALANCES

Bank	Total Checks of Each Bank Against Other Banks	Total Checks by Other Banks Against It	Net Balance in Favor of Each Bank	Net Balance Against Each Bank
A	$25,000	$17,000	$8,000	.....
B	20,000	25,000	.....	$5,000
C	24,000	27,000	.....	3,000
Totals	$69,000	$69,000	$8,000	$8,000

It is evident that there is a net balance of $8,000 due to A and net balances of $5,000 and $3,000 due from B and C. Inasmuch as the clearing house is simply a go-between for the three banks and is not engaged in a banking business itself, there should be neither a balance against it nor in its favor at the end of day. According to the practice of making clearings, banks B and C, against which there are net balances, will settle first by providing the clearing house with the necessary funds, or $8,000 in all. The clearing house will then pay A the net balance due it, amounting to $8,000, and will thus complete the clearance operations with a zero balance, as is proper.

To give some idea of the enormous volume of checks handled by clearing houses it is estimated that 750,000 checks pass daily through the New York Clearing House. The figure for Boston is placed at 100,000 to 200,000.

The clearing-house mechanism economizes the use of money. Since the establishment of the clearing house in New York in 1854 there have been only two years in which over 9 per cent of the claims to be settled had to be paid by the actual transfer of money, and in eleven years the figure was less than 4 per cent.

Before the establishment of the federal reserve system the method of settling balances varied in different cities, although it was universal to require banks which had balances against them at the clearing house to make settlement first and then for payment to be made by the clearing house to the other banks. Settlements were made either on a cash basis or on some other basis. When cash was the basis the balances were usually paid in gold coin or legal tender notes. When cash was not the basis of settlement there were a number of methods in vogue, such as:

1. Drafts on other cities.
2. Clearing-house manager's check on debtor banks given to creditor banks.
3. Borrowing and loaning balances with or without interest.
4. Clearing-house certificates.
5. Clearing-house loan certificates.

Of these different methods the most common was clearing-house certificates. In most cities each member of the clearing house had on deposit in the vaults of the clearing house, or some bank agreed upon as a depository, gold coin, silver certificates or legal tender notes, for which clearing-house certificates in large denominations were issued. These certificates saved the actual handling of the gold, but could be used only in settling balances

between the members. Another important advantage in the use of clearing-house certificates consists of the greatly diminished risk of transferring funds. In the case of a messenger carrying them being robbed, no loss would be occasioned because they cannot be cashed by an individual and are good only for settling balances between banks. In times of financial disturbance or panic, clearing-house loan certificates were issued on the basis of acceptable collateral security and thus enabled banks to meet their obligations at the clearing house without drawing on their cash funds.

3. Settling Clearing-House Balances under Federal Reserve System.—The method of settling clearing-house balances under the federal reserve system is a relatively simple matter. When member banks were required (after June 21, 1917) to keep their entire legal reserves on deposit at the federal reserve bank in their district, the process of settling the net balances from clearing-house operations became practically a matter of bookkeeping by which transfers are made between the different deposit accounts. For instance, in Boston the bank balances at the clearing house are settled as follows: The debit banks, all being members of the federal reserve system, draw their checks on the federal reserve bank to the order of the Boston Clearing House, which checks are deposited in the federal reserve bank to the credit of the manager of the clearing house. His checks are then drawn in favor of the credit banks for the entire balance, which, of course, settles the business of the day.

4. Clearings for Banks Not Members of the Clearing House.—Especially in the larger cities, all banks do not find it advantageous to become members of the clearing house. However, this does not put any hardship on non-member banks for the reason that most of them clear through banks (including the federal reserve banks) which are members. For instance, in a certain

city the Ninth Trust Company clears through the Tenth National Bank. Every day the checks which are received by the Ninth Trust Company are sent to the Tenth National Bank, which presents them together with its own items at the clearing house. Similarly when other banks in the city receive checks drawn against the Ninth Trust Company, they present them through the clearings to the Tenth National Bank. Thus if on a certain day the Tenth National Bank sent $45,000 of checks to the clearing house for the Ninth Trust Company and received from the clearing house $40,000 of checks drawn against the Ninth Trust Company, the latter would have as a result of the day's transactions a favorable balance of $5,000 and this sum would be placed to the credit of its deposit account with the Tenth National Bank. In like manner if the balance of the Ninth Trust Company should be unfavorable by the same amount, $5,000 would be deducted from the deposit account which the Ninth Trust Company has with the Tenth National Bank.

In cities where the federal reserve bank is a member of the clearing house it acts as the clearing agent for many banks. In Boston, for instance, the federal reserve bank, which is a member of the local clearing house, acts as clearing agent for many of the trust companies which are not members of the clearing house, or which do not clear through other banks

5. Checks Traded Directly between Banks.—Particularly in the larger cities many checks are exchanged directly between banks before and after the actual city clearings, which usually begin at about 10 A.M. and are finished at about 10:30 A.M. The object of this direct exchanging is to relieve congestion of work in the banks and at the clearing house. For purpose of clearing-house records, however, checks which are handled in this way are included in the totals of the daily clearings. It has been the custom in Boston for a number of years for the larger banks to meet at 9 o'clock and exchange checks. No settlement is made

at that hour, but the totals of the checks so exchanged are included in the regular clearing at 10 o'clock.

6. Domestic Exchange.—The term "domestic exchange" ordinarily refers to drafts on out-of-town banks located in the United States. Before the establishment of the federal reserve collection system domestic exchange rates were an important factor in the settlement of transactions between business men in one section of the country and those in another. These rates were subject to much the same influences as those affecting the foreign exchanges. For example, during the summer and early fall funds flow from east to west to finance crop movements. This creates an increased demand in New York and other eastern cities for drafts on Chicago; or, what amounts to the same thing, there is an increased supply of New York exchange in Chicago. Consequently, before the operation of the federal reserve system exchange on Chicago during the late summer and early autumn was normally at a premium, while New York exchange in Chicago was quoted at a corresponding discount. Naturally the premium or discount was small because it could not be greater than the cost of shipping currency, ordinarily not more than 50 cents per $1,000 between Chicago and New York.

As indicated elsewhere, premiums and discounts on domestic exchange are now almost a thing of the past on account of the establishment of the federal reserve collection system. A few banks, particularly in sparsely settled sections, have not joined the system and obtain revenue by charges for the collection of checks and drafts.

7. Federal Reserve Collection System.—A bank's out-of-town items which require collection include checks (individual and bank), drafts, acceptances, bonds, and coupons. In order to facilitate the collection of these items each federal reserve bank is required to exercise the functions of a national clearing

house for its members. No member bank is required to use it; and members may still keep accounts with correspondents and make their collections through the latter as formerly. Member banks, however, must remit or receive at par all checks drawn on them and presented at their own counters.

The action of the Federal Reserve Board in organizing a national clearing-house system caused considerable opposition to develop, largely because it warred against established customs in the matter of charges for collection and exchange and thereby interfered with an important source of profit to country banks in particular. The opposition to those provisions which require the federal reserve banks to receive from their member banks, at par, checks and drafts payable on presentation and prescribe that no remittance charge for such checks shall be made against the federal reserve banks was for some time especially intense and sustained in districts Nos. 6, 9, and 10. This opposition, however, has gradually become less intense and will, it is believed, disappear entirely within a reasonable time after all the banks in the country are placed on the par list. At present more than 95 per cent of the banks of the United States are on the par list.

8. Operation of System.—The federal reserve collection system is thus composed not only of member banks, but also of all non-member banks which have indicated their willingness to accept at par checks drawn on or presented to them. As an example of the operation of the federal reserve collection system let us consider the methods used by the Federal Reserve Bank of Boston, first in the handling of checks, and second in the handling of other items.

The Federal Reserve Bank of Boston will receive from member banks checks drawn on all national banks in the United States, and such checks on state banks and trust companies as can be collected without payment of exchange. In order to

facilitate collection it is required that checks deposited by member banks be sorted into separate cash letters as follows: (1) Boston checks, (2) New England checks, (3) other district checks. Checks drawn on banks and trust companies located in Boston are collected through the Boston Clearing House Association of which the federal reserve bank is a member. Checks drawn on banks and trust companies in the First Federal Reserve District, outside of Boston, are forwarded direct to such banks, which are required to remit immediately to the Federal Reserve Bank of Boston. Checks drawn on member and nonmember banks in other reserve districts are dispatched for collection to the federal reserve bank (or its branch) in the district where they are payable.

9. **Collection of Time Items.**—In addition to handling checks for member banks the Federal Reserve Bank of Boston will receive for collection and credit promissory notes; time, sight, and demand drafts with or without securities, bills of lading, or other documents attached; orders on savings banks; maturing bonds and coupons; checks previously protested; and any other forms of collection items. A Boston bank is expected to effect its own collection of time items payable at other Boston banks or trust companies. United States coupons are redeemable at the federal reserve bank, which acts as fiscal agent of the United States. There is no charge by the federal reserve bank for this collection service rendered to its members except: (1) a charge of 15 cents for each item returned unpaid, and (2) any exchange charge or fee imposed by the collecting or paying agent. In making the collection the federal reserve bank may, at its discretion, send any item direct to the bank which is to make payment, or where it is payable, or it may send the item to an agent with like authority for such direct sending. The bank or agent to which the item has been sent is then required to remit promptly.

The present collection system, particularly in the case of checks, has remedied the three principal disadvantages of previous systems. These disadvantages were:

1. In order to avoid exchange charges there were frequent circuitous routings of checks which caused delays in presentation of checks.

2. Exchange charges were inequitably borne. The interior country banks by charging exchange for collecting checks made large profits, whereas eastern banks by accepting country items at par made no profit.

3. Collection of checks was expensive because the exchange charges were often excessive.

10. Gold Settlement Fund.—For the purpose of effecting with as little delay and cost as possible settlements between the 12 federal reserve banks and their branches there has been established in the Treasury Department a gold settlement fund. By this means title to funds in one district can be transferred to another without the actual movement of money, and the old practice of shifting funds for crop-moving purposes is abolished. The heavy movement of government funds in connection with Liberty bonds and Treasury certificates of indebtedness affect to a large extent the gold settlement fund operations.

Each reserve bank is required to keep in this fund with the Treasury of the United States a balance of not less than $1,000,000 and this was accomplished by shipments of gold to Washington. The first withdrawal was made July 14, 1915, when the Federal Reserve Bank of Chicago sent a telegram filed at 10.30 A.M. At 2.30 P.M. the same day the Assistant Treasurer of the United States at Chicago was ready to make payment of $2,000,000 as requested.

The great value of this method of clearings and transfers is further indicated by its economies. For the year 1919 the total expense of operation, including the entire cost of the leased wires

and salaries of accountants, was approximately $250,000. This represents the basic cost of effecting the domestic changes between the 12 federal reserve districts. The extent of the saving may be appreciated from the fact that a charge of 10 cents per $100, if generally imposed, would have involved an expense to the commerce of the country of $73,984,252.

11. **Significance of Clearing-House Figures.**—For the purpose of comparing business activity for different periods or for different sections of the country, statisticians sometimes employ clearing-house figures. Such use of these figures, however, for long periods, is open to serious criticism unless proper allowance is made for varying conditions. The large number of banking consolidations in recent years has tended to make the number and amount of clearing-house items smaller than what they would have otherwise been. The more banks there are in a community, the more checks will be presented at the clearing house, because each bank will very likely have received during the day checks on every other bank. On the other hand, if several of these banks combine, checks that previously would have gone through the clearing house will now be handled by transfer entries on the books of the consolidated institution. In short, if in a certain community it were possible to combine all of the individual banks into a single institution a clearing house would not be necessary.

Notwithstanding these defects, bank clearings are frequently used as an index of the volume of business. It is customary, however, to distinguish between the clearings of banks in New York City and those in outside cities. Clearings in New York are affected by stock-exchange transactions which represent activity in the field of speculation rather than industrial and commercial enterprise. This may be illustrated by the following table which shows the clearings in New York and outside New York over a series of years:

BANK CLEARINGS IN NEW YORK AND IN OTHER CITIES

Year	New York Clearings		Outside New York	
	Amount (Billions)	Increase or Decrease (Per Cent)	Amount (Billions)	Increase or Decrease (Per Cent)
1910	$97,275	− 6.1	$66,821	+ 7.3
1911	92,373	− 5.0	67,857	+ 1.6
1912	100,744	+ 9.1	73,209	+ 7.9
1913	94,634	− 6.1	75,181	+ 2.7
1914	83,019	− 12.3	72,227	− 3.9
1915	110,564	+ 33.2	77,253	+ 7.0
1916	159,581	+ 44.4	102,275	+ 32.4
1917	177,405	+ 11.5	129,540	+ 26.7
1918	178,533	+ 0.6	153,821	+ 18.7
1919	235,803	+ 32.0	181,717	+ 18.1

It will be observed that the fluctuations in the New York clearings have been more violent than in other cities. In 1913 and 1914 the number of shares sold on the New York Stock Exchange was less than half as many as dealt in ordinarily. Naturally the volume of clearings is affected by higher prices and consequently the large gains shown in the more recent years are not due simply to the increased number of business operations calling for payment by checks, but also to the higher prices.

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CHAPTER XXII

DEFECTS OF THE NATIONAL BANKING SYSTEM

1. Inelastic Circulation.—To understand the changes which were introduced by the federal reserve banking law it is necessary to review some of the most salient characteristics of the national banking system. The National Banking Act of 1863 perpetuated the continuance of local independent banks, as contrasted with a single large central bank with branches or subagencies. These banks had the right to issue circulation secured by bonds. In the chapter on national bank note circulation some of the reasons for fluctuations in the volume of these notes are given.

Changes in the volume of national bank note currency—contraction and expansion by turns, during long periods—did not meet the more sensitive needs of business, with its periodic seasonal changes created by the movement of crops, fluctuations in commerce, activity in the securities markets, to say nothing of the strains arising during crises. The currency was yoked to the finances of the government, as reflected in the amount of its indebtedness, rather than to current demands of industrial and commercial enterprise. Moreover, the technical regulations affecting the purchase and deposit of bonds and the issue or redemption of bank notes prevented a prompt response to the fluctuations of trade. In this respect the circulation lacked elasticity.

Elasticity of circulation involves not only its possible expansion when there is demand for more currency, but also its contraction when the demand is over. Contraction is as necessary as expansion; otherwise there will be inflation. Redemption of notes, resulting in contraction, was imperfect under the national

banking system. A national bank could not force the retirement of its notes, except through the redemption agency at Washington or through the chance presentation of its notes at its own counter. Notes were rarely sent to the redemption agency unless they were cut or mutilated. Moreover, the law (1882) limited the amount of notes which could be withdrawn in any one month to $3,000,000.[1] Expansion might go on as long as bonds could be purchased and there was a profit in the operation. Contraction, however, was hampered and could be accomplished only with delay.

The situation was well described in a report of the National Monetary Commission:[2]

> The sum of the whole matter is that under the existing system of bank notes based upon government bonds, normal and automatic expansion and contraction of the currency, in response to the needs of trade, is flatly impossible. The currency supply may be greatly enlarged in the dull midsummer months and suddenly contracted when the active autumn business season begins. It may increase rapidly at a time when trade reaction has reduced to a minimum the necessities for even the existing bank-note supply, or it may be as rapidly reduced when large harvests, full employment of labor, and active hand-to-hand use of currency most need a larger circulating medium.

Not only did bank note currency not respond to the needs of business, but frequently operated in the opposite direction. When business is active and there is general prosperity the price of bonds is likely to be high, thus retarding the increase in circulation. On the other hand, in a period of depression the price of bonds may decline, making it advantageous to the banks to purchase and thereby enlarge their note issues.

2. Scattering of the Reserves.—In the chapter on cash holdings and reserve of a commercial bank it was seen that under the

[1] In 1907 this was increased to $9,000,000.

[2] Alexander D. Noyes, History of the National-Bank Currency, published by the National Monetary Commission (1910), p. 20.

original banking act reserves were scattered; a part of the reserves were held in the bank's own vault and a part, except for banks in central reserve cities—New York, Chicago, and St. Louis—could be redeposited with agency banks in reserve cities or central reserve cities. A part of the reserve might thus be massed to a certain extent, but this massing or accumulation of reserves in centralized funds was not directed by the needs of commerce.

A very considerable amount was attracted to the banks in the central reserve city, New York, where it found ready use in loans made to stock-brokers. As reserves held by banks for other banks were demand deposits, the New York reserve agents who handled these funds were obliged to be in a position to respond promptly to withdrawals by their client depositing banks. They therefore were disposed to loan on call, thus subjecting the stock-brokerage business to rapid and violent fluctuations in interest rates. In March, 1914, the New York banks held $836 million of the funds of outside banks, and an inquiry made in 1912 showed that loans to stock-brokerage banks at that time amounted to $240 million.

3. Immobility of Reserves.—Not only were the reserves scattered, although accompanied by a certain degree of centralization in New York where they were devoted to a specialized business relating to the marketing of securities rather than the support of commercial undertakings, but they were rigid, or immobile. There was no authority or machinery whereby they could be promptly directed to relief when there was a special tension and demand for loans. In times of emergency it was difficult to call home the reserves which had been redeposited, without seriously affecting the value of the securities dealt in on the principal stock exchanges. Apart from the effects upon stock speculation, a sudden decline in the value of securities may

be disastrous, for these are used as collateral in borrowing by merchants and manufacturers.[3]

A banker (Warburg) wrote:

> If after a prolonged drought a thunderstorm threatens, what would be the consequence if the wise mayor of a town should attempt to meet the danger of fire by distributing the available water, giving each house owner one pailful? When the lightning strikes, the unfortunate householder will in vain fight the fire with his one pailful of water, while the other citizens will all frantically hold on to their own little supply, their only defense in the face of danger. The fire will spread and resistance will be impossible. If, however, instead of uselessly dividing the water, it had remained concentrated in one reservoir with an effective system of pipes to direct it where it was wanted for short, energetic, and efficient use, the town would have been safe.
>
> We have parallel conditions in our currency system, but, ridiculous as these may appear, our true condition is even more preposterous. For not only is the water uselessly distributed into 21,000 pails, but we are permitted to use the water only in small portions at a time, in proportion as the house burns down. If the structure consists of four floors, we must keep one-fourth of the contents of our pail for each floor. We must not try to extinguish the fire by freely using the water in the beginning. That would not be fair to the other floors. Let the fire spread and give each part of the house, as it burns, its equal and insufficient proportion of water. *Pereat mundus, fiat justitia!*[4]

And Kemmerer illustrates the situation as "analogous to what would happen today if after drilling our American army to a high point of fighting efficiency, we should scatter the men in small units all over the United States to protect the country from a threatened invasion. Each community would be jealous of its own squad of soldiers, but the invader would come and the efficiency of our well drilled soldiers would be practically nil."[5]

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[3] See page 188.

[4] The Discount System in Europe, published by National Monetary Commission (1910), p. 33.

[5] E. W. Kemmerer, The A B C of the Federal Reserve System, p. 6.

4. Acceptance Market Not Developed.—In other respects also the National Banking Act did not adequately meet the needs of business in the course of its rapid development. No authority was given banks to accept domestic bills of exchange drawn by merchants, manufacturers, and others, for purchasing, carrying, and marketing goods. In the older countries of Europe a bank not only makes loans and discounts, but it undertakes to accept bills which may be drawn upon it, thus powerfully reinforcing its credit facilities. This practice was not recognized in the National Banking Act. There was fear that the privilege would be abused and would result in unsound banking; and, moreover, there was not the apparent need for this privilege, owing to the simpler methods of business in this country. With the development of foreign trade the advantage of acceptances became more and more apparent.

5. Lack of Rediscount Market.—Nor was there a rediscount market in the United States. By rediscounting, commercial paper which is held by one bank is sold to another bank. The National Banking Act did not prohibit this practice, but there was a general prejudice against it. The discounting of a note by a bank for its customer was regarded as a private arrangement, the knowledge of which should not extend to another bank. A business man who had credit could borrow from his individual bank, if the bank was able and willing to make loans, but the purchase of credit was to that extent restricted and personal. As a rule the borrower does not scatter his purchases of credit; his relationship in this respect is like that of a patient to his physician. It is intimate, confidential, and personal. Unless this personal relationship of credit can be supplemented by other devices, there will be great variations in the price of credit or rates of interest in different parts of the country, and indeed in different cities in the same section. This immobility of credit may be illustrated by comparing the factors which determine the

price of wheat with those which determine the price of money, the rate of interest. Wheat is grown on thousands of farms in widely different sections; there is, however, barring the differences due to the cost of transportation, but one price for wheat throughout the country. In other words, wheat can be mobilized and directed to any point where there is a deficiency. From the farm it goes to elevators along the lines of railroads; from there it is accumulated in terminal elevators and again redistributed to localities where demand is effective. The scattered supply is thus distributed and equalized in accordance with demand arising from thousands of scattered localities.

But it is far different in the buying and selling of short-term credit, where a system of individualistic, independent banking is in operation. There may be a large amount of available credit in one section and a great demand in another which cannot easily be supplied. Some method must, therefore, be devised to mobilize credit, adjust supply to demand, and secure more uniform rates of interest. Until the establishment of the federal reserve system little had been done in this direction. It was looked upon as a source of weakness on the part of a bank to apply to another bank for rediscount. Consequently the carrying of loans was not shifted from one bank to another. Banks in one section might hold large amounts of idle cash, while those elsewhere could not satisfy all the legitimate demand for commercial loans. Potential use of credit was thus wasted.

6. Disregard of Banking Defects.—There were thus three outstanding defects in the national banking system: (1) the scattering of the reserves; (2) the inelasticity of bank note circulation; and (3) the lack of a well-developed discount market. Little heed, however, was given to these shortcomings. Since the Civil War expert attention and effort had been largely directed to the establishment of a system of sound currency, by which all kinds of money should be maintained at a parity with

gold. During the earlier part of this period the problem centered in the resumption of specie payments, by making government paper money, or greenbacks, equivalent to gold in current payments; later discussion and legislation was devoted to the place of silver in the monetary system. The greenback question was settled by the Resumption Act of 1875 and its fulfilment in 1879; the silver issue was settled by the Gold Standard Act of 1900, whereby provision was made for the enlargement and maintenance of the underlying gold reserve of the Treasury. Engrossed by these efforts, the public gave little attention to the need of banking reform and changes in the use of credit. There was an occasional note of warning and various plans were suggested by students of banking and business organization. None of these, however, seriously attracted the attention of Congress.

7. Panic of 1907 and Demand for Reform.—The defects of the banking system were re-emphasized by the panic of 1907. This, like all panics, came unexpectedly, and the disaster which followed awakened the public and Congress to the necessity of preventive and remedial measures. The National Monetary Commission, under the chairmanship of Senator Aldrich, was appointed to collect evidence and make a report.

For immediate needs the Aldrich-Vreeland law was enacted (May 30, 1908). This provided for the issue of credit notes by individual banks upon deposit of other than government bonds, or through national currency associations upon pledge of commercial paper to be taxed at increasing rates depending upon the length of maturity of the paper.

The Monetary Commission made an exhaustive investigation and submitted its report in 1912. Seventeen defects in the existing banking system were noted. The chief among them were as follows:

1. There was no provision for the mobilization and use of the scattered reserves of the banks.

2. Restrictions were placed upon use of reserves so that they could not be freely employed for loans in times of emergency.
3. The currency was inelastic.
4. Banks were without power to co-operate in times of stress.
5. Because of a lack of a broad established market for agricultural, industrial, and commercial paper, there was congestion of loanable funds in great centers; this encouraged speculation.
6. There was lack of credit facilities in different parts of the country.

The commission also prepared a plan for a central reserve institution with extensive powers. But public sentiment was not prepared for so radical a change. The tradition of the misdeeds of the Second United States Bank was still current, there was an increasing fear of a money trust, the thousands of independent banks were suspicious of any additional supervising control, and partisan politics delayed reform.

In 1913 the Democratic party came into power and, according to the position set forth in its campaign platform, promptly undertook the enactment of legislation. It, however, was traditionally opposed to centralizing power in the hands of the banks. And yet no step in advance could be made without some degree of centralization. A compromise was therefore effected; the findings of the Monetary Commission were revised and the Federal Reserve Act passed in 1913. The following chapter will describe its principal provisions.

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CHAPTER XXIII

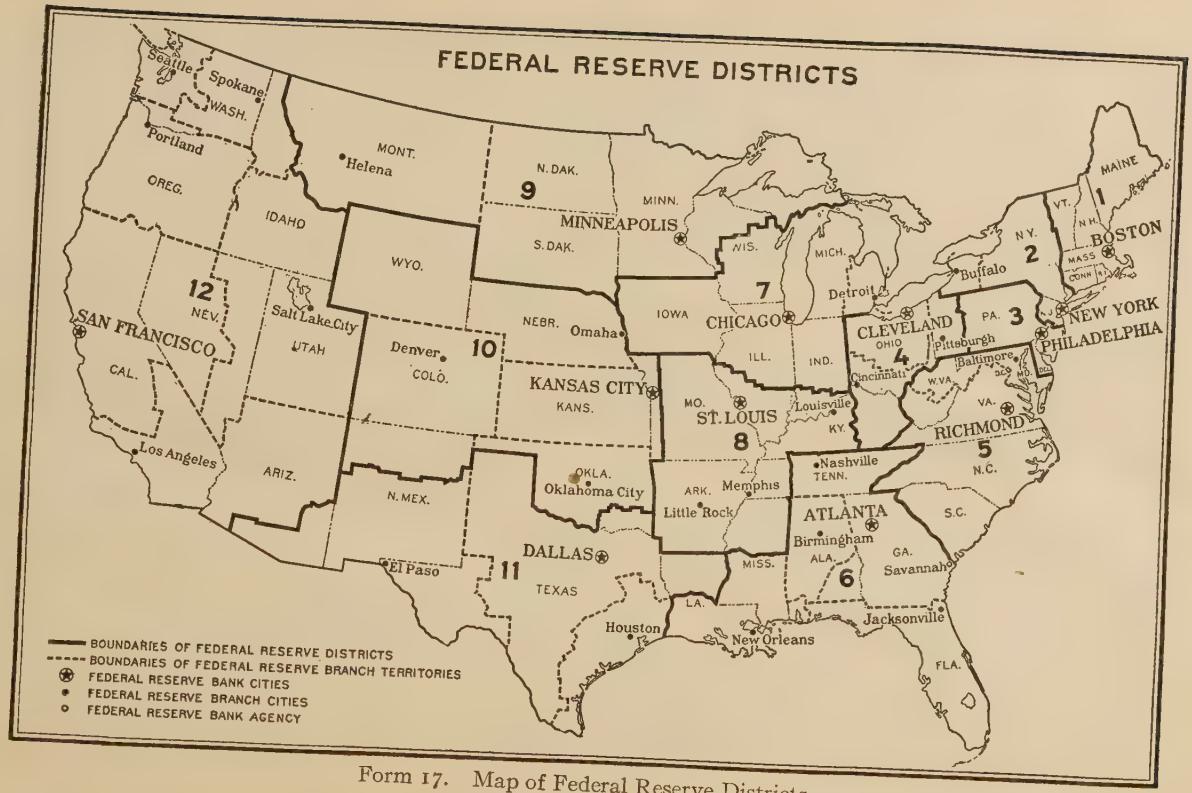
ORGANIZATION OF FEDERAL RESERVE SYSTEM[1]

1. Federal Reserve Districts. The Federal Reserve Act provided for the establishment of not less than 8 nor more than 12 federal reserve banks in as many districts, bound together by an ingenious mechanism under the supervision of a Federal Reserve Board. This board is composed of seven members, five appointed by the President for terms of ten years each, and two, the Secretary of the Treasury and the Comptroller of the Currency, serving ex officio. Two of the five members appointed by the President must be "experienced in banking or finance."

The districts were to be "apportioned with due regard to the convenience and customary course of business." As the act, however, contemplated that the capital of these district banks be furnished by the member banks within the respective districts in proportion to their own individual capital, and as banks were not uniformly distributed throughout the country, the problem of districting was by no means easy. The Organization Committee finally agreed upon 12 districts with federal reserve banks located at: (1) Boston, (2) New York, (3) Philadelphia, (4) Cleveland, (5) Richmond, (6) Atlanta, (7) Chicago, (8) St. Louis, (9) Minneapolis, (10) Kansas City, Missouri, (11) Dallas, and (12) San Francisco. The districts in which these banks are located are indicated in the accompanying map (Form 17).

In order to remedy inconveniences arising from the creation of a district too large to be efficiently managed, a federal reserve bank may be required by the Federal Reserve Board to establish

[1] For the sake of clearness, only the more salient features of the Federal Reserve Act are described in this chapter. Chapter XXIV presents additional data which enable the reader to understand more adequately the significant characteristics of this new legislation.



Form 17. Map of Federal Reserve Districts

branch offices within its district to be operated by boards of directors selected by the Federal Reserve Board and the federal reserve bank (Section 3). In 1920, 22 branches had been authorized. The principal services which these branches render are in expediting the receipt and shipment of currency and in the collection of checks and maturing notes, thus saving time in transportation in districts of wide area. All national banks, under penalty of forfeiture of charter, were obliged to assent to the provisions of the act and were thus forced to become member banks.

2. **Capital.**—The law requires that each federal reserve bank shall have a minimum capital of $4,000,000, subscribed in gold or gold certificates by the member banks (though provision is made for public subscription if not taken by banks) at the rate of 6 per cent of the capital and surplus of each member bank. Only half of this, however, is immediately payable, the remainder being subject to call by the Federal Reserve Board. Complete payment has not yet been enforced. In 1920 the paid-in capital of the several banks was as follows:

Boston	$ 7,718,000
New York	26,376,000
Philadelphia	8,485,000
Cleveland	10,654,000
Richmond	5,269,000
Atlanta	4,053,000
Chicago	13,913,000
St. Louis	4,364,000
Minneapolis	3,457,000
Kansas City	4,456,000
Dallas	4,098,000
San Francisco	6,927,000
Total	$99,770,000

It will be observed that there is a great inequality in the size of the banks, the New York bank having more than one-fourth

of the total capitalization. As all the banks are under the supervision of the Federal Reserve Board, and must, if directed, cooperate as a unit, this inequality does not mean that one bank can dominate the others.

3. Management.—Each federal reserve bank is managed by nine directors divided into three classes of three each, known as classes A, B, and C. The directors in class A are chosen by and are representative of the member banks; the directors in class B, chosen also by the member banks, must be "actively engaged within their district in commerce, agriculture or some industrial pursuit" (Section 4); the directors in class C are selected by the Federal Reserve Board.

The object of this classification is to secure a variety of interests in the management. Directors in class A represent the banks; those in class B, the public; and those in class C, the Federal Reserve Board. In order to protect the integrity of the management from partizan influences or the banker's prejudice, the law bars any member of Congress from appointment, or any officer or employee of any bank from serving in classes B and C. As a further safeguard, the Federal Reserve Board has advised (December 27, 1915) that no person holding political or public office or acting as a member of a political party committee shall serve as a director or officer of a federal reserve bank.

To guard still further against the domination of big banks in the election of directors in classes A and B by the member banks, the institutions within each district are divided into three classes, banks in each class being as nearly as may be of similar capitalization. The smaller banks are in one group, the middle-sized banks in another, and the bigger banks in another. Each group elects one director for class A and one for class B. By this device it was intended to give the small banks an influence equal to that of large banks in the management. As Kemmerer states it:

> The control of a federal reserve bank is as democratic as our democracy itself. "One bank, one vote" is the rule, and the vote of the First Bank of Jacksonville with its $25,000 capital counts as much as that of the National City Bank of New York with a capital and surplus 2,880 times as large.[2]

One of the directors in class C, selected by the Federal Reserve Board, is designated by the board as chairman and as "Federal Reserve Agent." He must be a person of "tested banking experience."

As an adjunct to the administration of the federal reserve system is the Federal Advisory Council. The members of this council are chosen by the several federal reserve banks, one for each district. The council has power to confer with the Federal Reserve Board on general business conditions and to make recommendations in regard to discount rates, note issues, reserve conditions, and other questions affecting the reserve system. Through this agency it is expected that there may be a free opportunity to submit criticism and to propose amendments.

4. Discounting Functions.—The chief powers of these federal reserve banks are to discount the notes, drafts, and bills of exchange of member banks; in other words, to advance credit to them upon the pledge of satisfactory security; to issue federal reserve notes; to receive deposits from member banks and the United States government; to purchase and sell in the open market bankers' acceptances; to deal in gold coin and bullion; to deal in government securities, including those of municipalities; and to establish foreign agencies and correspondents. The object of these provisions is to provide a discount market, nation-wide in its scope, whereby the use of credit may be made more flexible. In addition, national banks were given wider powers, among which is the right to accept bills of exchange arising out of certain commercial transactions.

[2] E. W. Kemmerer, The A B C of the Federal Reserve System, p. 31.

The federal reserve banks widen the commercial credit market in three ways:

1. By rediscounting for member banks, thus enabling these institutions to increase their own loaning facilities.
2. By open-market operations in the purchase and sale of acceptances, thus giving encouragement to a process of credit settlement, not as yet common in the United States.
3. By direct loans to member banks.

A federal reserve bank may discount for any of its member banks any note, draft, or bill of exchange, provided:

1. It has a maturity at the time of discount of not more than 90 days, exclusive of days of grace; but if drawn or issued for agricultural purposes or based on livestock it may have a maturity of not more than 6 months.

2. It arose out of actual commercial transactions; that is, it must be a note, draft, or bill of exchange which has been issued or drawn for agricultural, industrial, or commercial purposes, or the proceeds of which have been used or are to be used for such purposes.

3. It was not issued for carrying on trading in stocks, bonds, or other investment securities, except bonds and notes of the government of the United States.

4. The aggregate of notes, drafts, and bills bearing the signature or indorsement of any one borrower rediscounted for any one member bank shall at no time exceed 10 per cent of the unimpaired capital and surplus of such bank; but this restriction shall not apply to the discount of bills of exchange, drawn in good faith against actually existing values.

5. It is indorsed by a member bank.[3]

The object of these statutory provisions regulating rediscount are with one exception—discounts on securities of the

[3] See Federal Reserve Regulations, issued October, 1920.

government of the United States—to limit the privilege to operations connected with the process of immediate production, manufacture, and marketing of goods. With this in view the Federal Reserve Board carefully defines the various kinds of commercial paper, including: (1) promissory notes, (2) bills of exchange and trade acceptances, and (3) 6 months' agricultural paper; and for these different classes of paper each federal reserve bank determines the rates of discount it will charge.

A federal reserve bank may also discount for a member bank bankers' acceptances indorsed by at least one member bank and running for not more than 90 days, providing they grow out of transactions concerned with the importation and exportation of goods, or providing they grow out of the domestic shipment of goods, and shipping documents are attached. Of like purpose is the grant of power to purchase bills drawn by foreign bankers on member banks for the purpose of furnishing dollar exchange.

5. Control of Rediscounts.—It is not designed that a central rediscount bank, such as the federal reserve banks, shall furnish an inexhaustible supply of credits to member banks. Its primary purpose is to provide a fund from which individual or member banks can obtain loans in times of emergency. To make this principle effective, it is expected that the central reserve bank will charge a rate higher than the ordinary average rate charged by member banks to their customers.

In order to check an excessive amount of credit advances, either by member banks to their individual clients, or by federal reserve banks to the member banks which may seek support through the privilege of rediscounts, it is presumed that the district banks will, if applications for rediscounts appear to be based upon speculation or unsound business conditions, increase their discount rates. The member banks consequently will have to pay a higher rate of interest for their rediscounts; and they in turn will be obliged to charge their customers higher rates. In

this way it is expected that the federal reserve banks will be able to exert an effective control over the discount market of the whole country.

The operation of this principle in its most rigid form is well illustrated in England. The Bank of England fixes a rate of discount which it will charge, higher than the market rate. Naturally no banking institution will seek credit relief when compelled to pay a higher rate than it charges its own customers. By this action notice is given to the other banks that if they apply for discount it will be granted only on severe terms, and with this warning they generally stiffen their own rates. By this means the Bank of England exercises an effective control. These objects, of course, can only be accomplished in the United States when the larger part of the banking resources of the country is brought within the scope of the federal reserve system. The primary purpose, however, of the discount rate of the reserve banks is to protect the reserve position of the banks rather than to influence call and time rates of member banks.

It was impossible to exercise this principle of control by the federal reserve banks effectively during the war on account of the necessities of government financing, and since the war the principle has been in a large degree inoperative. All banking institutions were enlisted in placing the war loans in the hands of as many persons as possible, and to do this it was necessary to extend credit to purchasers on pledge of the bonds. Terms for borrowing by member banks were made attractive, generally no greater than that of the bond, so that the loan carried itself. Member banks could make advances to their customers only on the assurance that the federal reserve banks would discount notes secured by their government obligations on terms which would involve no loss. "War paper" was discounted by the district banks for the member banks at preferential rates.

Not only may a reserve bank rediscount the commercial paper presented by a member bank, but it may loan directly to

these banks. These loans, however, must have very short maturities, not exceeding 15 days, and the promissory note of the borrowing bank must be secured by commercial paper eligible for rediscount, or by government securities.

6. Open-Market Operations.—In addition to the foregoing dealings with banks, federal reserve banks may engage in certain open-market operations, in the purchase of bills of exchange, trade acceptances, and bankers' acceptances of the kinds and maturities made eligible for rediscount, with or without the indorsement of a member bank; that is, a federal reserve bank may take the initiative for employing its funds by purchasing in the open market certain kinds of short-term paper or credits. Until the passage of this act national banks could not accept time bills and this power was conferred upon state banks in only a few states. The Federal Reserve Act specifically grants this privilege and thus increases the use of the acceptance as an agency in mobilizing credit. At first the privilege was limited to credits advanced for the importation or exportation of goods, but later it was extended to credits for domestic trade. Not only may member banks deal in acceptances but the reserve banks can purchase them in the open market. In order to encourage the development of this credit instrument, and because of its high quality, the federal reserve banks have at times granted a more favorable rate of discount on it than that given for ordinary commercial paper.

The privilege of granting acceptances may, however, be abused, for some banks regard the acceptance as a method of increasing their lending power beyond the limits imposed by sound banking principles. A limit therefore is set upon the volume of bills which an individual bank may accept.

7. Discount Rates of Federal Reserve Banks.—The federal reserve banks act independently, but under the approval of the

Federal Reserve Board, in making their rates on the different classes of paper which they discount for member banks. The procedure is illustrated by the table on page 319, which shows rates, by banks and by character of paper, prevailing in March, 1921.

For all bills discounted in October, 1920, the average maturity was 13 days. The New York reserve bank held bills with shortest maturities, 7 days on the average; while the bills of the Minneapolis and Kansas City reserve banks ran for approximately 40 days.

8. Holding of Reserves of Member Banks.—Among the enumerated powers of the federal reserve bank is the right to receive deposits from a member bank. The new act makes these institutions the depositories of the reserves of all national banks and other banks joining the federal reserve system. Hitherto the reserves of national banks had been carried in their own vaults, or in part held by banks in reserve cities and central reserve cities. This resulted, as already explained, in scattered reserves. The object of the new plan was to mass these reserves so as to make them more effective and also to divert their use into more strictly commercial purposes. Under the act (as amended June 21, 1917), every member country bank keeps a reserve balance with its federal reserve bank of 7 per cent on its demand deposits; a bank in a reserve city, of 10 per cent; and a bank in a central reserve city, of 13 per cent. On time deposits all classes of banks maintain a reserve of 3 per cent. Under these percentages the amount of reserve which must be held is less than originally prevailed. The combination of reserves makes their use more economical; and, as individual banks can obtain funds by applying for rediscounts, it is not necessary to keep on hand large amounts for emergency.

No longer do the member banks keep any reserves in their own vaults. The holdings of actual cash in their own vaults is de-

Discount Rates of Federal Reserve Banks

Federal Reserve Bank	Paper Maturing Within 90 Days				Bankers' Acceptances Maturing Within 3 Months	Agricultural and Livestock Paper Maturing After 90 Days but Within 6 Months
	Secured by		Trade Acceptances	Commercial Paper not Elsewhere Stated		
	Treasury Certificates of Indebtedness	Liberty Bonds and Victory Notes				
Boston	5 1/2	6	7	7	....	7
New York	6	6	7	7	6	7
Philadelphia	6 *	5 1/2	6	6	6	6
Cleveland	6	6	6	6	6	6
Richmond	6	6	6	6	6	6
Atlanta	6	5 1/2	7	7	6	7
Chicago	6	6	7	7	6	7
St. Louis	6	5 1/2	6	6	5 1/2	6
Minneapolis	5 1/2	6	6 1/2	7	6	7
Kansas City	6 *	6	6	6	5 1/2	6
Dallas	6	6	7	7	6	7
San Francisco	6	6	6	6	6	6

* Discount rate corresponds to interest rate borne by certificates pledged as collateral, with minimum of 5 per cent in the case of Kansas City and 5 1/2 per cent in the case of Philadelphia.

Note: Rates shown for St. Louis and Kansas City are normal rates, applying to discounts not in excess of a basic line fixed for each member bank by the federal reserve bank; rates on discounts in excess of the basic line are subject to a 1/2 per cent progressive increase for each 25 per cent by which the amount of accommodation extended exceeds the basic line, except that the maximum rate charged by the Kansas City bank does not exceed 12 per cent.

termined by individual policy according to current needs, but such holdings are of no significance in the calculation of legal reserves.

> Member banks may keep as much or as little cash on hand for till money as they wish to. They may keep balances in other banks if it suits their convenience to do so—all that is their own affair for which their responsibility is to their stockholders and their customers—but their legal reserve, the reserve which the Government looks upon as the minimum below which the public interest demands that banks should not go, that reserve must all be kept on deposit in federal reserve banks, the nation's reservoirs of reserve money.[4]

From the foregoing provisions it must not be assumed that local banks throughout the country have discontinued the practice of placing a part of their funds in New York City banks. Probably half of the money loaned on stock exchange collateral in New York is that of interior banks. Interior banks still invest funds in New York, but such funds are no longer part of their reserve.

Under the present system the total reserve to be maintained by member banks is much lower than under the old system. Assume that the deposits of member banks amount to $10 billion distributed as follows:

	Billions
Central reserve cities	$3
Reserve cities	3
Country banks	4

The reserves under the old system would be:

	Per Cent	Cash in Vaults[5] (Millions)
Central reserve cities	25	$750
Reserve cities	25	375
Country banks	15	240
		$1,365

[4] E. W. Kemmerer, The A B C of the Federal Reserve System, p. 36.

[5] It is assumed that banks kept only the minimum amount of reserve and that banks in reserve cities and country banks redeposited their reserves.

Under the new system, the balances to be held by the federal reserve banks, assuming that all deposits are on demand, are:

	Per Cent	Millions
Central reserve cities	13	$390
Reserve cities	10	300
Country banks	7	280
		$970

Although the member banks are not required to hold any cash for reserve purposes, they will necessarily keep some for current needs of depositors. The federal reserve banks, however, are obliged to keep a reserve of 35 per cent in cash against the deposits of member banks, or $339.5 million as compared with $1,365 million under the old system. More than a billion dollars is thus set free for credit purposes.

The massing of the reserves makes a large accumulation. The 12 federal reserve banks at the close of 1920 held over $2 billion in gold besides nearly $200 million of legal tender notes and silver. Their total reserve was $2,249,000,000 to protect $1,748,979,000 of member deposits and $3,344,686,000 of federal reserve notes.

9. Reduction of Reserves by Federal Reserve Act.—The great reduction in reserve requirements resulting from the Federal Reserve Act is conveniently shown in the following table:

Example 1. A national bank in New York City (central reserve city bank) having total demand deposits of $200,000,000.

Example 2. A national bank in Boston (reserve city bank) having total demand deposits of $100,000,000.

Example 3. A national bank in Worcester, Mass. (country bank), having total demand deposits of $10,000,000.

Reduction in Reserve Requirements under Federal Reserve Act

Item	Previous to 1913	At Present (1922)
1		
(a) Reserve requirements.....	$50,000,000; 25%	$26,000,000; 13%
(b) Character of reserve.....	Lawful money in bank's vaults	Deposit account at federal reserve bank against which federal bank is required to keep 35% in lawful money in its own vaults
(c) Amount of reserve in form of lawful money back of each dollar of demand deposits of national bank.....	25 cents	4.55 cents (.35 × 13)
2		
(a) Reserve requirements.....	$25,000,000; 25%	$10,000,000; 10%
(b) Character of reserve.....	1/2 in lawful money in bank's vaults and 1/2* in deposit account in a central reserve city bank (New York, Chicago, or St. Louis)	Deposit account at federal reserve bank against which federal reserve bank is required to keep 35% in lawful money in its own vaults
(c) Amount of reserve in form of lawful money back of each dollar of demand deposits of national bank.....	15.625 cents (1/2 of 25 cents plus 1/4 of 12 1/2 cents)	3.5 cents (.35 × 10)
3		
(a) Reserve requirements.....	$1,500,000; 15%	$700,000; 7%
(b) Character of reserve.....	2/5 in lawful money in bank's vaults and 3/5* in deposit account in a central reserve city or reserve city bank	Deposit account at federal reserve bank against which federal reserve bank is required to keep 35% in lawful money in its own vaults
(c) Amount of reserve in form of lawful money back of each dollar of demand deposits of national bank.....	8.25 cents (2/5 of 15 cents plus 1/4 of 3/5 of 15 cents)	2.45 cents (.35 × 7)

* Option of bank which was permitted to keep whole reserve in its own vaults.

Note: In the above tabulation no mention is made of time deposits, which are relatively unimportant as compared with demand deposits. Previous to 1913 no distinction was made between demand deposits and time deposits in so far as reserve requirements were concerned. At present the reserve requirement for time deposits is 3 per cent. The fact that vault cash was formerly counted as a part of the required reserves, whereas under the Federal Reserve Act it is not permitted to be so counted, is taken into account.

10. Interbank Rediscounts.—But the reserve protection is stronger than would appear from the creation of twelve large funds. Machinery is devised whereby these separate funds can be made effective for mutual support. One federal reserve bank may be called upon to rediscount commercial paper for another federal reserve bank; and thus, if there be a strain in one district, relief can be given by federal reserve banks in other districts. This mutual service and aid may be voluntarily entered into by the federal reserve banks, or it may be enforced, at its discretion, by the Federal Reserve Board. In accordance with this policy rediscounting between the federal reserve banks has been frequently exercised. So far as possible the reserve position of the several reserve banks is equalized. In this way, as one writer phrases it: "The reserves of the twelve reserve banks are so closely piped together that they may reasonably be considered to be closely connected tanks of a single large reservoir."[6]

11. Note Issue Made More Elastic.—The framers of the Federal Reserve Act determined that, in order to make the currency more elastic, a new kind of bank note should be introduced. Elasticity in the medium of exchange does not necessarily demand an increase in bank notes, for the same end may be accomplished through the medium of deposit currency and the transfer of bank book credits. The analysis of banking operations shows that credit may be extended to a borrower either by the creation and transfer of a promissory note as a bank note, or by giving him a deposit account against which he can draw checks.

England until recently has relied upon deposit accounts rather than bank notes in the granting of bank credit. The United States, on the other hand, has freely used the issue of bank

[6] E. W. Kemmerer, The A B C of the Federal Reserve System, p. 41. Interbank borrowing on a small scale has been practiced for many years in times of emergency, particularly in the South and West. Like rediscounting between banks, however, it was regarded as a sign of weakness on the part of the borrowing bank, and the liability was frequently concealed on the balance sheet. See O. C. Lockhart, "Development of Interbank Borrowing in the National System," *Journal of Political Economy*, Feb. and Mar. 1921.

notes for the supply of such credits. State banks until the Civil War period issued large amounts of bank notes. The national banking system openly encouraged this policy, due to the effort to create a market for government bonds. Thus through a century of expansion this policy became ingrained in the business habits of the people. The credit problems of an old and small nation, as England, where business relationships are closely knit together through a long period of commercial development, are different from those existing in a country as large as the United States, with widely scattered and diversified interests and less confidence in the promise of an individual as compared with that of an organized banking institution. Moreover, the use of bills of exchange and acceptances had not been greatly developed in the United States.

It was not to be expected, therefore, that the new federal reserve system would do away with bank notes as a means of providing credit. The purpose was to make the use of this form of credit more elastic and serviceable to the needs of business.

12. Federal Reserve Notes.—The act provides for the issue of federal reserve notes by the Federal Reserve Board, to be advanced to the federal reserve banks in exchange for an equal amount of collateral in the form of notes, drafts, bills of exchange, acceptances, bankers' acceptances, gold and gold certificates. It is thus made possible for the federal reserve banks to rediscount the offerings of commercial paper tendered by the member banks. If the volume of loans made by member banks is large and the latter seek rediscounts at the district banks, and if these in turn require the aid of credit from the Federal Reserve Board as represented by the reserve notes, a large volume of notes will be issued. If commerce and industry decline, necessitating a less demand for discounts, the volume of notes will shrink. When a business transaction is closed and the debtor of the member bank settles this obligation, the commercial paper underlying

the federal reserve notes is liquidated. The member bank meets its obligation to the federal reserve bank, and to that extent the federal note circulation is contracted. Reserve bank note currency responds to the needs of business and thus has the quality of elasticity.

Federal reserve notes are issued not only against commercial paper but also against gold and gold certificates. This latter provision, therefore, does not increase the elasticity of the currency but makes it possible to change the form of the monetary medium. For the success of the federal reserve system it was believed necessary that the gold held by thousands of banking institutions should be massed and placed under the control of the federal reserve banks. By this means the reserve power of the reserve banks would be strengthened. Not only did the member banks deposit gold in transferring their reserves on deposits, but they were urged to exchange any surplus gold which they held for federal reserve notes. In the first few years of operation, before the member banks took advantage of rediscounting commercial paper, a very considerable part of the federal reserve note issue was based upon gold collateral.

While the notes are not legal tender, they are "obligations of the United States and shall be receivable by all national and member banks and federal reserve banks and for all taxes, customs and other public dues." They are redeemable in gold on demand at the Treasury Department at Washington, or in gold or lawful money at any federal reserve bank (Section 16).

The notes of all federal reserve banks are of the same design, but the issues of the several twelve banks bear a distinctive letter and serial number so that the notes issued through a given bank may be identified. The Federal Reserve Bank in Boston represents the First District and consequently its notes carry 1–A; New York is the Second District and its notes are marked 2–B, etc. To promote redemption, whenever notes issued through one federal reserve bank are received by another, they

must be promptly returned for credit or redemption to the federal reserve bank through which they were originally issued, or they may be forwarded to the Treasurer of the United States to be retired. Non-compliance with this regulation involves a penalty of a tax of 10 per cent upon the value of the notes if otherwise paid out.

13. **Reserves against Deposits and Notes.**—We have now two classes of liabilities, outside of the liability to member banks for their subscribed capital stock. These are, first, the liabilities to the depositing banks, and, second, the liability for the note issues. Ample provision is made against these liabilities. Each federal reserve bank must maintain a reserve in gold or lawful money of not less than 35 per cent against its deposits, and a reserve of gold alone (including gold certificates) of not less than 40 per cent against its federal reserve notes in actual circulation. Gold, or gold certificates, which is received as collateral for the issue of these notes may be included in the gold reserve against circulation.

The federal note issues may under authority of the Federal Reserve Board be increased beyond the limits involved in the holding of a 40 per cent gold reserve. In other words, in case of emergency the reserve requirements may be suspended. In order, however, to control this expansion and bring it speedily to an end when the emergency has passed, a graduated tax is imposed upon the deficiency in the reserve. This amounts to not less than 1 per cent until the reserve falls to 32 1/2 per cent, and to not less than 1 1/2 per cent upon each 2 1/2 per cent the reserve falls below 32 1/2 per cent. This tax is paid by the federal reserve bank, but in turn will be added to the rates of interest and discount charged by the federal reserve bank in its dealings with member banks.

14. **Federal Reserve Bank Notes.**—In addition to federal reserve notes the federal reserve banks issue notes secured spe-

cifically by United States bonds, known as "federal reserve bank notes." The Federal Reserve Act contemplates the retirement of national bank notes secured by bonds, and makes provision for the taking over of the bonds which national banks own in order that they may not suffer loss. It was not thought wise to withdraw at once during this process the circulation based upon these bonds, and the federal reserve banks were given the same privilege of deposit of bonds and issue of notes enjoyed by the national banks. Owing to the new loans made by the government and the burdens placed upon the federal reserve banks, it has not been possible to effect the retirement of these notes as originally planned. In 1918 there was a considerable increase in the issue of this variety of notes due to a requirement in the act authorizing the sale of silver and retirement of silver certificates and the issue in their place of federal reserve bank notes.

15. **Membership by State Institutions.**—In order to broaden the rediscount market and to utilize the banking reserves of the country and thus make the new system effective in the highest degree, it was considered desirable, if possible, to bring state institutions under the scope of the act. The federal reserve law provides that any bank incorporated under a state charter may become a member bank under substantially the same rules and regulations to which a national bank is subject, without losing any of the statutory rights it may possess under the state charter. It must have the same amount of unimpaired paid-up capital which a national bank must have, according to the place where it is located; must subscribe to the capital stock of the district banks; must maintain the reserve requirements of the reserve act; must make reports and be subject to examinations.

During the first two years of the operation of the law few state institutions joined the system. There was fear that the privileges enjoyed under state charters might be sacrificed, and the advantages to be gained under the new act were not sufficiently

clear to justify a change. Many of the state banks did not have the minimum capital required under the provisions of the act; they objected to an increase in their reserves, for the requirements of state laws were generally more liberal than was demanded by the federal act; they feared that they would receive less interest since they could no longer deposit a part of their reserves with other banks; they were averse to submitting reports to the Comptroller of the Currency, a federal official; and, in general, they were not willing to sacrifice the charter powers and statutory rights which they possessed as state institutions. The privilege of securing rediscounts was not regarded as a great advantage, for the banks at that time had abundant funds; even the national banks rarely sought rediscounts. Moreover, a non-member bank could indirectly obtain rediscounts through a member bank.

A campaign of education was directed toward convincing the state banks that they would lose no substantial rights and that they would gain by having the right to secure rediscounts from a federal reserve bank. As there was hesitation on the part of many institutions to take advantage of this opportunity, the original law was amended so as to make withdrawal possible, if the relationship did not prove satisfactory, without requiring the dissolution of the bank. Permission was given to retain state charter powers; reports were to be made to the federal reserve banks, instead of to the Comptroller of the Currency; and examinations of the banks were also supervised by a reserve bank instead of by the Comptroller.

With the new credit demands created by the war, the need of a uniform system became more apparent. Patriotic appeals were made to the state institutions to enter the system. In October, 1917, President Wilson made a public statement, in which he declared:

> It is manifestly imperative that there should be a complete mobilization of the banking reserves of the United States. . . .

> A vigorous prosecution and satisfactory termination of the war will depend in no small degree upon the ability of the Government not only to finance itself, but also to aid the governments associated with it in the war, which must be kept supplied with munitions, fuel, food, and supplies of all kinds. The banking problem involved is one which concerns all banks alike. Its solution does not depend upon the national banks alone, nor upon the state banks. The burden and the privilege must be shared by every banking institution in the country.

Influenced by such appeals and by legislation, both federal and state, which removed some of the objections, state institutions have more recently joined in larger numbers. Another factor influenced state institutions: By an amendment to the reserve act (September 26, 1918) a national bank was given the right to exercise trust powers and to act as executor, registrar of stocks and bonds, guardian of estates, and in any other fiduciary capacity permitted under the laws of the state in which the national bank may be located, previously denied to them and exclusively enjoyed by trust companies. As national banks could thus compete with state trust companies, these advantages previously enjoyed by the latter became of diminished consequence. To offset this loss they found it expedient to seek the privileges granted by federal reserve membership. At the beginning of 1921 the membership of state banks and trusts numbered 1,487, representing a capital and surplus of $1,034 million. There were 9,000 state institutions eligible for membership, having over one-fourth of the total banking capital and surplus in the United States, which were not members. [7]

16. Relation of Federal Reserve Banks to the Government. —Although the federal reserve banks are not directly managed or controlled by the government, the relationship of the government to the new system is close and intimate. The supervisory

[7] See Seventh Annual Report of the Federal Reserve Board for 1920, p. 84.

body, the Federal Reserve Board, is appointed by the President (by and with the advice and consent of the Senate); the Federal Reserve Board has a voice in selecting one-third of the board of directors for each of the 12 district banks; the federal reserve notes are direct obligations of the United States; a certain portion of the excess profits of the banks must be paid to the government as an excess tax, and the reserve banks must perform for the government certain fiscal agency operations. On the other hand, the several regional banks are not under the direct control of the government, for each board of directors can, subject to the supervisory powers of the Federal Reserve Board, manage its own affairs. The chairman of the directors of each reserve bank is, however, appointed by the Federal Reserve Board.

As fiscal agents of the federal government, the federal reserve banks perform important services. They take charge of placing loans and may hold government deposits. Formerly the funds of the Treasury were kept in part in the sub-treasuries and in part deposited with national banks. This system had its disadvantages. A surplus in the Treasury frequently led to accumulation of money in the sub-treasuries, where it was unavailable for active service in business; and the scattering of the deposits among the national banks was determined by administrative judgment, rather than by the need of the money. Moreover, the apportionment of government funds deposited with national banks frequently aroused criticism and jealousy on the part of the banks.

The reserve act provides that "the moneys held in the general fund of the treasury, except the five per centum fund for the redemption of outstanding national bank notes, and the funds provided in this act for the redemption of federal reserve notes, may, upon the direction of the Secretary of the Treasury be deposited in federal reserve banks" (Section 15). Few transfers of government funds from national banks to reserve banks were made during the early years of the system, owing to the disin-

clination to disturb established relationships. Later, on account of the huge financial undertakings of the government occasioned by the war, it was found expedient to continue this policy. Recently, however, the Treasury Department has directed the reserve banks to hold the funds of the government on deposit.

The federal reserve banks as fiscal agents of the government handled all the details connected with the sale, allotment, distribution, and redemption of Treasury certificates of indebtedness (through which the Treasury anticipated the proceeds from the sale of Liberty bonds and Victory notes) among member and non-member banks; received subscriptions to the loans; and collected all note and certificate payments. They undertook the various exchanges of bonds and paid coupons of war securities as they fell due.[8] As illustrating this fiscal service, it may be noted that in 1919 nearly 33 million government checks amounting to over $14 billion passed through the federal reserve banks and their branches, and that these banks paid over 100 million Liberty bond and Victory note coupons.

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CHAPTER XXIV

REDISCOUNTING BY FEDERAL RESERVE BANKS

1. Early Development of the Federal Reserve System.—The preceding chapter describes the principal characteristics of the federal reserve system. In the main it dealt with the fundamental provisions of the law rather than with the results of operation. With this description in mind these provisions may be more clearly understood by a brief historical review of the changes resulting from the new banking plan.

The development of the federal reserve system is a striking illustration of the rapid and unexpected changes which are characteristic of American economic life. The framing and passage of the act was attended by partizan debate. Many national banks which were compelled to become members, and to that extent support the system, did so without enthusiasm and assumed an attitude of toleration rather than of helpful cooperation; state banks and trust companies were open in their opposition and endeavored to bring the new system into disrepute; and, as industry was stagnant and did not call into activity the latent force of the system which would reveal its possible useful service, even the business community was not attracted to its support. Many, indeed, were unacquainted with its operation, or if informed they were indifferent either as to its establishment or to its continuance.

In November, 1914, when the federal reserve banks began operations, the capital of the combined 12 regional banks amounted to $18 million—less than that of individual banks in New York City; investments in bills or loans were less than $6 million and the note circulation was only a paltry million dollars. These banks held a considerable volume of gold and, by virtue of

the provision requiring the member banks to keep a portion of the reserve with the 12 regional banks, they carried $227 million of deposits. These transactions made little impression on the financial world.

Although the industrial life of the nation was quickened in the following year, 1915, particularly in the expansion of the export trade, the banking situation remained substantially the same. The reserve banks had a little more capital, as the subscriptions of the member banks by that time had been paid in; they increased their gold holdings ($297 million), and the reserve deposits were somewhat larger. But the rediscounting function, whereby the reserve banks were expected to take an intimate part in financing business, was still inactive. Bills held, or loans, amounted to only $43 million, and the larger part of these were purchased in the open market; federal reserve note issues increased to nearly $200 million, but only $17 million of this was secured by commercial paper. The remainder was based upon the deposit of gold.

2. Activity of Reserve Board.—The Federal Reserve Board, however, was not idle during this period. Opportunity was given to outline a policy, to frame its regulations, and to prepare the system for the tasks which might subsequently be imposed upon it. The different classes of commercial paper eligible for discount at the federal reserve banks were carefully defined; attention was given to the development of bankers' acceptances, hitherto little used in American credit practice; and efforts were made to simplify the arrangements whereby state banks could be admitted to the system. This work of preparation was, however, largely internal and did not in any material degree affect the credit machinery of the banks of the country. It was fortunate, indeed, that business conditions were "easy" and that as yet no strain was placed upon the banks, for it was possible for the Federal Reserve Board to carry on a campaign of education, cultivate

"good relations with member banks," and thus unify the banking agencies of the nation, as was contemplated in the original act.

3. Complaints against System.—In 1916 industry speeded up still more rapidly. Even if the United States was not in the war, it was called upon to provide commodities for the war. The flow of gold which set in from Europe in the preceding year continued, and the larger part was absorbed by the federal reserve banks, swelling the amount to nearly $700 million. Commercial bill holdings, or loans, increased to a little over $100 million ($117 million); and, against the increase of gold and commercial paper, federal notes advanced to $239 million.

But even after two years of operation the federal reserve system attracted little attention; the money market was still easy, due in a large measure to the importation of gold; and member banks were able to furnish loans to their customers without seeking rediscounts. Many bankers still chafed over the new centralizing regulations which restricted individual freedom of action; they objected to placing banking under the surveillance of a new "master of the house"; and they protested because they were deprived of certain profits which they had formerly enjoyed. More specifically they complained that membership was compulsory; that member banks were obliged to deposit a part of their reserve with the federal reserve banks which paid no interest, as compared with the former system whereby they earned interest on deposit balances in reserve city banks; that checks must be collected at par, thus cutting off revenue which banks derived in transferring funds from one place to another; and that the federal reserve banks were engaged in competitive profit-seeking, as in the purchase of bank acceptances to the detriment of member banks. As for the federal reserve notes which began to filter into general circulation, they were regarded as curiosities and another illustration of the variegated currency which the United States traditionally enjoyed. And to the initiated these

notes were regarded simply as gold certificates, being backed up by the gold which the federal reserve banks had received from member banks in the transfer of reserves.

4. Expansion Due to the War, 1917.—Then came the war in April, 1917. Suddenly the situation changed and the business world quickly realized that it had a friend in time of need. The federal reserve banks were called upon to render a service not contemplated in the act authorizing the new system. The title of the Federal Reserve Act reads as follows: "To furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes." In view of the duties imposed upon the reserve banks, it would have been more specific to have inserted in this title an additional phrase, "and to enable the government to borrow money."

Upon declaration of war the productive capacity of industry essential to the prosecution of war was taxed to the utmost. Plans were instantly made on a prodigious scale. Never was a greater strain so quickly made upon the credit facilities of banks. But more than that, the government was in immediate need of funds; and, whatever the system of taxation, funds could be had quickly only through borrowing. In the light of subsequent experience the demand which the government then made seems pitifully small. Banking experts estimated that only between $500 million and $1,500 million of bonds could be sold, but notwithstanding these discouraging estimates the Treasury asked for $2 billion. To the astonishment of all, including the experts, the people replied by offering to take $3 billion. Even before the proceeds of this loan could be made available, it was necessary for the government to have funds and this was provided by the issue of Treasury short-term certificates. In the sale of these as well as of the bonds, the government turned to the federal reserve banks to act as its agent, and

through this service these institutions were brought into new and close relationships with the banking world.

But more than this was done. Regulations were adopted whereby member banks could rediscount at federal reserve banks notes secured by the new government war obligations as collateral. And to make the loaning of money to the government by the purchase of bonds as easy a sacrifice as possible, it was further ordered that the discount rate, charged by the federal reserve banks to the member banks on notes secured by these war obligations, would be no greater than the interest granted on these securities. This policy finally brought the federal reserve system close to the interests of the great body of the population. From this time on the federal reserve system became a recognized public institution.

5. Rediscounting of Paper Secured by War Obligations.— Under the original National Banking Act no national bank could borrow money in excess of its capital. The Federal Reserve Act amended this by excepting liabilities incurred through rediscounts at the federal reserve bank.

> It was not contemplated by the Federal Reserve Board that the member banks would, except to meet seasonal requirements or emergencies, avail themselves of this amendment in order to extend their rediscount lines beyond the original limitations. It was the Board's view also that as a rule the discount rates of the federal reserve banks should be higher than current market rates, thus offering no incentive to member banks to rediscount for the sake of making a profit in the transaction.[1]

Owing to the "abnormal ease of money" in 1915 and 1916 the efficiency of this discount policy was not tested. Not until 1917 did rediscounts on commercial paper show any marked increase. The needs of the Treasury, however, occasioned by the entrance of the United States into the war, diverted the federal reserve system from its original purpose. Federal reserve banks

[1] Sixth Annual Report of the Federal Reserve Board, 1919, p. 68.

were authorized to discount for member banks notes running up to 90 days, which were secured by government obligations, and a preferential rate of discount was established on these notes, not exceeding the rate of interest on the government securities. It was, therefore, impossible for the federal reserve banks to develop an independent discount policy whereby loaning rates would be adjusted to the needs of business and exercise a control over the rates of member banks. The banks were cautioned against making loans for purposes unessential to the war, but in establishing low rates to aid borrowers in the purchase of government securities, there was opportunity for others to secure credit for private ends. Reliance was placed upon good faith instead of control through banking discount procedure. In 1919 loans on government obligations far exceeded discounts on commercial paper. "The federal reserve banks became great bond distributing organizations"; "the credit facilities of the federal reserve banks were placed at the disposal of member and non-member banks in order that they might lend freely on bonds for which the subscribers were unable to pay."[2] The following table shows the amounts of the two classes of rediscounts during the years 1918–1921:

FEDERAL RESERVE REDISCOUNTS, 1918–1921
(In millions)

Date	Discounts on Commercial Paper	Discounts on U. S. Government Obligations
January 25, 1918	$315.1	$312.5
July 26, 1918	628.9	673.2
January 31, 1919	243.6	1,357.6
July 25, 1919	251.4	1,616.2
January 30, 1920	716.5	1,457.9
July 30, 1920	1,250.6	1,241.0
January 28, 1921	1,048.8	1,407.7
July 27, 1921	591.2	1,059.3

[2] Sixth Annual Report of the Federal Reserve Board, 1919, p. 68.

It was expected by many that the rediscounts on governmental obligations would rapidly disappear from the balance sheets of reserve banks upon the return to peace. The Federal Reserve Board recognized that a "restoration of normal conditions must be brought about through the gradual elimination of war paper from the banks."[3] Liberty bonds, however, were below par; if not available for rediscounts a very considerable amount would be thrown upon the market for sale. This would depress the price and discourage the holders, many of whom originally invested under conditions of great sacrifice, and who could not understand why they should be called upon in times of peace to make still further sacrifice.

6. Rediscount Policy at Close of the War.—There was hesitation in advancing the discount rates of the federal reserve banks in 1919. Apart from the necessities occasioned by the financing of the Treasury, it was held that European countries, as well as the United States, were extremely short of goods, and that consequently the use of credit for producing goods should not be unduly curtailed. At the same time it was recognized that there was an immoderate use of credit by those engaged in speculation in securities, land, and commodities, which led to higher prices, increased cost of living, and laid the foundations for future collapse and depression.

The difficulty of the problem was commented upon by the Federal Reserve Board as follows:[4]

> The extent to which the Federal Reserve Bank rates may normally be expected to be "effective," in the sense in which that term is used in England and Continental Europe, still remains to be determined. . . . It seems doubtful whether, for a long time to come and taking the country as a whole, there will be any such close connection of Federal Reserve Bank rates with the

[3] *Ibid.*, p. 2.
[4] *Federal Reserve Bulletin*, October 1919, p. 911.

> volume of credit in use as was to be noted, for example, in pre-war days in England, the home of central banking.
>
> The habitual temper of the American business community is sanguine and American business is, for the most part, done on liberal margins. The bulk of the requirements for credit facilities comes from industry and trade mainly domestic in its origin and character. Such a condition does not make for sensitiveness to the influence of changing rates such as was the case in England, where such business is done on a narrow margin of profit and where banking resources were normally employed largely in the international loan market. . . .
>
> The problem of controlling the volume and uses of credit in a country with so much diversity of business interests and business temper as the United States is far from simple and far from certain of solution. Experience alone can determine whether and in what manner a technique of control through rates can be developed which will secure the desired results.

Moreover, the Treasury was still obliged to make temporary borrowings through the issue of short-term certificates of indebtedness. The rates of interest on these obligations did not attract private investors and the banks were called upon to purchase large amounts. This they would not do unless assured that these investments would be carried by the reserve banks without loss. Consequently the Federal Reserve Board proceeded cautiously.

7. Check of Credit Expansion.—It was not until November, 1919, a year after the armistice, that the reserve banks advanced rates. For many months the rates on commercial paper had varied from 4 to 5 1/2 per cent according to maturity; they were then gradually raised to 6 per cent by 8 of the reserve banks and to 7 per cent by 4 of the banks. While this advance checked the rate of credit expansion, it did not cause contraction. Credit expansion had already received such impetus that it was difficult to bring it under control. A new device was therefore sought by an amendment to the Federal Reserve Act, April 13,

1920; by this, federal reserve banks were authorized to charge rates "graduated or progressed on the amount of the advances or discount accommodations extended by the federal reserve bank to the borrowing bank." Four reserve banks adopted this method. Loans were thus distributed more evenly to the member banks, but credit expansion as a whole was only slightly affected by such measures.

During 1920 the situation slowly improved. Liberty bonds were being slowly absorbed by private investors, partly due to a growing appreciation of the investment merit of these securities, and partly due to the advancing rates of interest charged by member banks in response to the higher rediscount rates of the federal reserve banks. In one year, between November, 1919, and November, 1920, the holdings of the federal reserve banks of bills discounted on United States government obligations fell from $1,701 million to $1,181 million. In 1921 further progress was made and by the end of the year this class of discounted bills amounted to less than $500 million, as compared with approximately $700 million of rediscounts on commercial paper.

In December, 1920, the Federal Reserve Board did away with the differential rate in favor of paper secured by war obligations, excepting, however, the Treasury certificates of indebtedness. Not until the middle of 1920 did rediscounts on commercial paper equal those secured by war obligations, and after that date they were in excess. It is impossible as yet to determine in what degree commercial rediscounts are functioning in response to business and commercial fluctuations, as was anticipated by the founders of the system. The reduction of discounts of paper secured by war obligations in 1920 was more than offset by the discounts on "other" commercial paper. Notwithstanding the decline in business in the latter half of 1920 and the decrease in rediscounts on war obligations, the total volume of rediscounts was greater in December than in July. The question therefore arises as to whether the member banks were not borrowing on

notes representing renewals and credits which were not easily liquidated.

8. Volume of Rediscounts.—The balance-sheet figures of bills discounted do not adequately indicate the service which the federal reserve banks are rendering in the supply of credit facilities. The discounts are for but short periods; purchase and liquidation are in constant operation. For example, of the $2,719 million bills held December 30, 1920, three-fifths matured within 15 days and about a fourth more within 60 days. To maintain these figures it is therefore necessary for the reserve banks to discount during the month several times the foregoing amounts. This is seen in the following table showing the total volume of discounts by years:

VOLUME OF FEDERAL RESERVE DISCOUNTS BY YEARS

Date	Bills Discounted for Member Banks	Yearly Increase of Bills Discounted
1915	$161,353,000	.....
1916	207,870,000	$46,518,000
1917	8,968,990,000	8,761,121,000
1918	39,752,934,000	30,783,943,000
1919	79,173,970,000	38,421,036,000
1920	85,320,874,000	6,146,904,000

The former prejudice against seeking rediscounts has practically disappeared. Not all member banks, however, find it necessary to seek credit from the reserve system. The proportion of banks accommodated is somewhat higher in the South and West than in the East, and this is what might be expected as there is less accumulated capital in those sections. In 1920 about one-half the member banks of the entire system sought accommodation at one time. In October the highest percentage

was in the Atlanta district, 72 per cent; and the lowest in the Cleveland district, 28 per cent.

9. **Increase in Bankers' Acceptances.**—Credit facilities have been extended not only through rediscounts but by the greater use of bankers' acceptances. This development is shown by the following figures which represent the total volume of acceptances purchased annually in the open market by federal reserve banks:

1915.....	$5,000,000
1916.....	386,000,000
1917.....	909,000,000
1918.....	1,810,000,000
1919.....	2,825,000,000
1920.....	3,218,000,000

It is estimated that at the close of 1920 the maximum acceptance power of the members of the federal reserve system was over $3 billion, and that other banks had an acceptance power of more than half a billion. At the same time there were outstanding a little over a billion dollars of acceptances, showing that this new credit facility was being rapidly extended. These acceptances are growing in favor not only with commercial banks, which seek liquid investments, but also with savings banks, which can thus temporarily employ their funds while seeking for advantageous long-term commitments.

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CHAPTER XXV

OTHER OPERATIONS OF FEDERAL RESERVE BANKS

1. Note Issues under the Original Act.—Federal reserve notes are issued to a reserve bank by the federal reserve agent acting as the representative of the Federal Reserve Board. Promptness of action and continuity of policy is secured by making the agent one of the members of the directorate of the bank. Under the original act the bank pledged commercial paper with the federal reserve agent, and received in return federal reserve notes, in equal amounts. Subsequent regulations, however, permitted the bank to substitute gold in place of the commercial paper pledged as collateral. Since the banks held an increasing amount of gold due to deposits made by member banks and it was their policy to centralize the gold fund of the country as largely as possible under their own control, they soon adopted the practice of withdrawing the commercial paper from the possession of the reserve agent and substituting gold. The gold thus surrendered no longer was counted as part of the general gold reserve of the bank. Under this procedure a large part of the reserve notes became practically gold certificates and did not increase the total volume of currency. Gold was simply converted into reserve notes. For example, on January 28, 1916, there were $179,000,000 notes outstanding; although originally called into existence by the pledge of commercial paper, on the date named, they were secured by only $15,000,000 commercial paper and by $205,000,000 gold. Again, at the close of the year (December 30) there were $300,110,000 of reserve notes, but only $17,588,000 were secured on that date by eligible paper pledged with the agents, the banks' liability on the remainder having been reduced by the deposit of gold.

2. Later Provisions for Note Issue.—This relationship of a surplus gold collateral continued until the act was amended June 21, 1917; the banks were then permitted to deposit gold directly for the issue of notes, and, what was more important, permission was given the banks to count the gold deposited with agents as part of the gold reserve. Notes could be issued both against gold alone and against gold and eligible paper as security, the gold thus acquired serving as part of the required reserve of 40 per cent against notes and of 35 per cent against deposits. This amendment gave new impetus to the issue of federal reserve notes. Notes could now be issued against collateral of 60 per cent commercial paper and 40 per cent gold, instead of 100 per cent commercial paper and 40 per cent gold.

3. Note Issue Increase.—The following table shows the growth of note issues:

	Thousands		Thousands
January 29, 1915.....	$14,500	July 26, 1918.....	$1,870,835
July 30, 1915.....	85,127	January 31, 1919.....	2,450,729
January 28, 1916.....	179,224	July 25, 1919.....	2,504,497
July 28, 1916.....	152,590	January 30, 1920.....	2,850,944
January 26, 1917.....	259,768	July 30, 1920.....	3,120,138
July 27, 1917.....	534,015	January 28, 1921.....	3,090,748
January 25, 1918.....	1,234,934	July 27, 1921.....	2,537,617

It will be observed that a marked increase took place in the latter half of 1917. The significance of this, made possible by the amendment liberating gold, may be seen still more clearly in the table on page 346.

Between June and November in 1917, notes resting upon a credit basis were put into circulation to the extent of $342,679,000, of which nearly $200,000,000 were issued in the seven weeks ending November 16. The increase in notes during 1917 and 1918 was largely due to the discount by reserve banks

on paper secured by war obligations of the government. In April, 1917, when the United States entered the war, the volume of notes issued was $400 million; at the time of the Armistice, it was approximately $25 million.

FEDERAL RESERVE NOTE CIRCULATION AND GOLD RESERVE

(Amounts in thousands)

1917	Total Circulation of Notes	Gold Reserve	Percentage of Gold Reserve to Total Circulation	Credit Basis of Notes
May 25....	$454,402	$456,611	100.5	.....
June 29....	508,807	402,693	81.0	$106,114
July 27....	534,015	434,193	83.0	99,823
August 31....	587,915	493,185	85.1	94,730
September 28....	699,343	555,239	80.8	144,104
October 26....	847,506	614,692	73.8	232,814
November 16....	972,585	629,906	65.9	342,679

Under the amendment of 1917 a federal reserve bank may deposit $1,000,000 of gold and receive an equal amount of notes; the $1,000,000 of gold may then be used as the 40 per cent reserve needed to obtain $2,500,000 additional notes through the pledge of commercial paper. Truly, "the capacity of the system to adapt its operations more closely to the changing requirements of the public" was "greatly enlarged."[1] By these changes, according to the Federal Reserve Board, the federal reserve note, instead of being "an occasional emergency currency used to supplement deficiencies in the supply of other existing forms of currency, is becoming the most important constitutent of our circulating medium, responding promptly and naturally to currency requirements from whatever source proceeding, thus promising to give to our whole currency a kind and degree of elasticity it has never before possessed."

[1] Fourth Annual Report of the Federal Reserve Board, 1917, p. 11.

4. Expansion Due to War Financing.—This anticipation might possibly have been fulfilled if it had not been for the rediscounting of bills based on war obligations already described. A very considerable part of the note issues since 1917 has been created by the pledge of government securities. To that extent the issue is another example of bond-secured currency, similar in principle, though created by different machinery, to that of the national banking system. Instead of a national bank buying bonds, to be pledged with the Treasurer of the United States, on which national bank notes are issued, the member bank applied to the federal reserve bank for a loan giving as collateral government war obligations which it owned, or a customer's note secured by similar obligations. The federal reserve bank deposited this collateral with the federal reserve agent and received in return federal reserve notes which were paid to the borrowing bank.

Elasticity of currency implies contraction as well as expansion. Because of the heavy responsibility which was placed upon the federal reserve system in aiding the government to finance its loans, expansion was the rule. The higher level of prices also tended to create a greater volume of currency. In only one month in 1918 was there a decrease in federal reserve notes; and in 1919, two months. If shorter periods, or weeks, be analyzed, examination shows 5 separate weeks of contraction in 1918 and 17 in 1919. The 17 decreases in 1919 totaled $374 million, but the net gain was $544 million. Analysis also shows that there was an acceleration in the rate of expansion beginning with September, and a recession in the early weeks of each year, corresponding with a lessened demand for currency for crop-moving and Christmas trade.[2]

5. Maintenance of the Reserve.—The rapid increase in the deposits of member banks and the expansion of notes, each of

[2] *Federal Reserve Bulletin*, November 1919, p. 1043.

which must be protected by a reserve, is reflected in the large additions of gold holdings. At times, however, the maintenance of the reserve required by law has been a serious task. The relationship between deposits, notes, and reserve for the whole system is seen in the table on page 349 which gives figures for two dates in each year: (1) date of maximum reserve ratio within the year, (2) date of minimum reserve.

6. Protection of Reserve by Interbank Rediscount.—It will be noted that the reserve needed for notes since the middle of 1918 is much greater than the reserve for deposits, due to the increase of discounts or loans to member banks which are made possible by the issue of notes. The deposits do not fluctuate greatly, but the demand of member banks for rediscounts from their respective regional institutions varies over a wide range at different periods of the year. An equilibrium has been maintained by interbank accommodations, or rediscounts between federal reserve banks. If it had not been for such accommodations, all the federal reserve banks, except Cleveland and San Francisco, would at times have shown ratios far below the legal requirements. The series of charts in Form 18 shows the reserve percentages of federal reserve banks each week in 1920, as they would have appeared if no borrowing had taken place between federal reserve banks.[3]

Reserves in individual banks would have fallen as low as 9 per cent and risen as high as 81 per cent. By transferring the reserves from banks which had ample surplus to those in need of credit the temporary strain was lightened.

> The reserves of the system as a whole fluctuated between the narrow limits of 45.8 per cent and 41.4 per cent. . . . These operations were effected instantly over private telegraph lines and settled for daily by the gold settlement fund. Thereby, the twelve reserve banks, for all purposes requiring the extension

[3] Sixth Annual Report of Federal Reserve Bank of New York, 1920, p. 12.

Yearly Maximum and Minimum Reserve Requirements of Federal Reserve Banks

(In millions, except last column)

Year	Deposits, Net		Notes in Circulation		Total Deposits and Notes	Required Reserve	Total Cash Reserve Held	Gold in Excess of Required Reserves (Free Gold)	Ratio of Cash Reserves to Deposit and Note Liabilities Combined
	Amount	Required Reserve of 35 Per Cent	Amount	Required Reserve of 40 Per Cent					
1917									
Max. March 30...	$707	$247	$358	$143	$1,065	$390	$947	$557	88.9
Min. December 21...	1,466	513	1,228	491	2,694	1,004	1,694	689	62.9
1918									
Max. February 21...	1,404	491	1,281	512	2,685	1,004	1,819	815	67.7
Min. December 6...	1,704	597	2,585	1,034	4,289	1,630	2,121	491	49.5
1919									
Max. June 6...	1,712	599	2,513	1,005	4,225	1,604	2,270	666	53.7
Min. December 26...	1,704	597	3,058	1,223	4,762	1,820	2,136	316	44.8
1920									
Max. December 30...	1,604	561	3,345	1,338	4,949	1,889	2,249	360	45.4
Min. May 14...	1,839	644	3,083	1,233	4,923	1,877	2,078	201	42.2

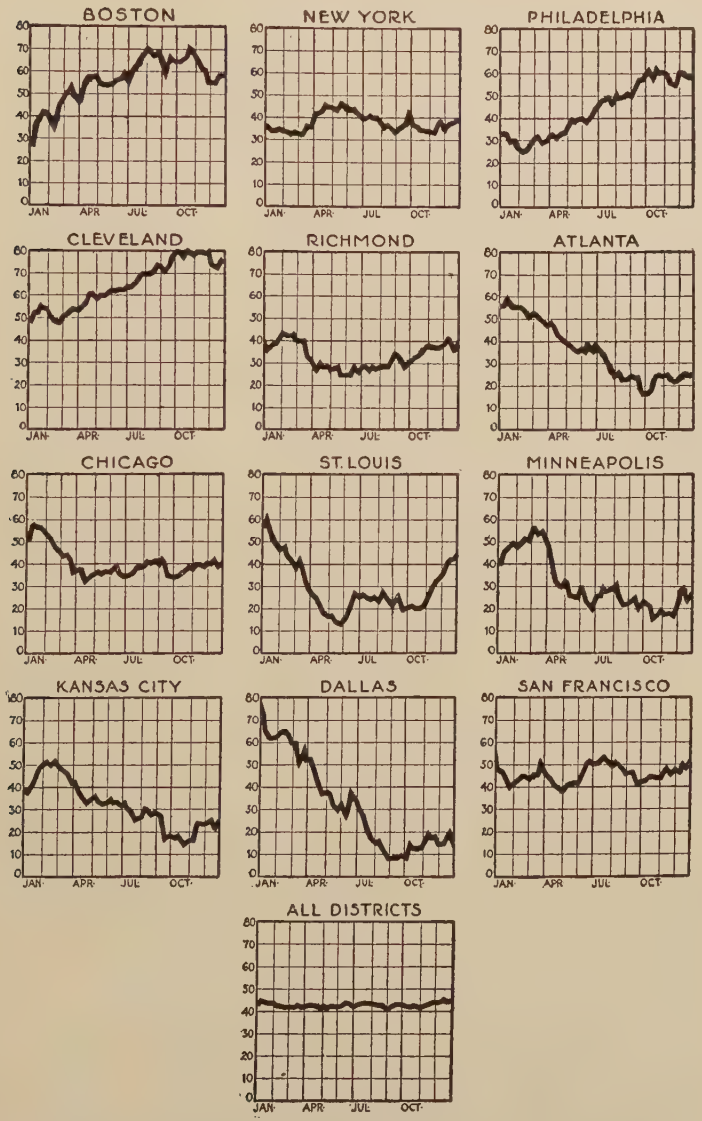
or transfer of credit between various sections of the country became in effect a single reservoir of credit.[4]

7. "Free Gold."—In the table showing the reserves of the federal reserve banks the term "free gold" is used. This is the gold held in excess of what is required as reserves against net deposit and note liabilities. This excess of free gold can be used as the basis of further reserve deposit credit or additional note circulation. During the first year of the federal reserve system the amount of free gold was very large as note circulation was small. With the increase in deposits and notes, more and more gold was needed for the reserves. At the beginning of 1919, the free gold of the 12 banks amounted to $550,000,000. At the close of the year it declined to $316,000,000. If it be assumed that for every $2 of increase in net deposits there is an increase of $3 in federal reserve notes, the last amount of free gold might have been converted into reserve gold to protect $332,540,000 of net deposits and $498,810,000 of reserve note circulation.[5] This represented the potential expansion at the close of 1919. If the district banks are able to accumulate a still larger part of the gold stock, a still further extension of note issues is possible without going below the normal reserve limits fixed by law.

8. Earnings and Dividends of Federal Reserve Banks.—The federal reserve banks are permitted to accumulate from their earnings a surplus equivalent to 100 per cent of the subscribed capital. After this surplus is accumulated and 6 per cent dividends paid on the stock, 90 per cent of the net profits must be paid to the government as a franchise tax, the remaining 10 per cent being added to the surplus.

The earnings of the federal reserve banks are large. In 1919 the net earnings were $82,000,000, or 98 per cent on the paid-in

[4] Sixth Annual Report of Federal Reserve Bank of New York, 1920, p. 13.
[5] *Federal Reserve Bulletin*, February 1920, pp. 145–146.



Form 18. Charts of Reserve Percentages of Federal Reserve Banks
(see page 348)

capital; and in 1920, $151,000,000, or nearly 161 per cent on the capital. In the latter year, 9 of the 12 district banks had reached a surplus of more than 100 per cent, thus establishing super-surplus accounts. These large earnings have aroused criticism from those who believe that the reserve banks, like public utilities, should be restricted to moderate profits. As the earnings are derived from the rediscounts made to member banks, these critics argue that the reserve banks should lower their discount rates and thus make it possible for borrowers of member banks to obtain loans at reduced rates. To do this, however, would run counter to the principles of sound centralized banking and result in inflation.

The larger earnings of the reserve banks are due, not to excessive rates of rediscount but to the large volume of business, calling for rediscounts, which the member banks transact. If the reserve banks discounted at more favorable rates, the member banks would be tempted to extend their loans and the volume of business would be still larger. Moreover, the reserve banks are able to make the large volume of rediscounts only through the issue of federal reserve notes. If rediscounts were increased, more notes would be issued, the currency would be increased, and the reserve banks would become involved in a continuous policy of inflation. The reserve banks retain only a small part of the earnings after the surplus is once established. Ninety per cent goes back to the federal Treasury, and the government is pledged to use this either for strengthening the gold reserve to protect the legal tender issues, or to purchase outstanding bonds. Thus the public gets back the profits which were created by borrowers.

9. The Balance Sheet of a Federal Reserve Bank.—The operations of a federal reserve bank may be more clearly understood by a consideration of a balance sheet. For this purpose that of the New York Federal Reserve Bank on December 30,

1920, is given. (Numbers are prefixed to the items for purpose of subsequent reference.)

BALANCE SHEET OF FEDERAL RESERVE BANK OF NEW YORK, DECEMBER 30, 1920

Resources

			Thousands
1	Gold and gold certificates		$135,046
2	Gold settlement fund, Federal Reserve Board		36,435
3	Gold with foreign agencies		1,211
4	Gold with federal reserve agents		254,575
5	Gold redemption fund		39,000
	Total gold reserves	$466,267	
6	Legal tender notes, silver, etc.		143,975
	Total reserves	$610,242	
	Bills discounted:		
7	Secured by government war obligations		445,926
8	All other		458,313
9	Bills bought in open market		109,902
10	United States government bonds		1,468
11	United States Victory notes		50
12	United States certificates of indebtedness		59,692
	Total earning assets	$1,075,351	
13	Bank premises		4,377
14	Uncollected items and other deductions from gross deposits		139,020
15	Five per cent redemption fund against federal reserve bank notes		2,766
16	All other resources		1,584
	Total resources		$1,833,340

Liabilities

17	Capital paid in		$26,376
18	Surplus fund		51,308
19	Government deposits		2,260
20	Due to members—reserve account		693,474
21	Deferred availability items		94,273
22	Other deposits, including foreign government credits		11,284
	Total gross deposits	$801,291	
23	Federal reserve notes in circulation		864,516
24	Federal reserve bank notes in circulation—net liability		38,741
25	All other liabilities		51,108
	Total liabilities		$1,833,340

10. Explanation of Items—Assets.—Gold is listed under several headings according to the special service it performs:

1. Gold and gold certificates. This is the gold set aside as a reserve against the deposits of member banks and federal reserve notes which have been issued to the bank.

2. Gold settlement fund, Federal Reserve Board. Instead of keeping all its gold in its vault, a part is kept by the Federal Reserve Board (deposited, however, in the United States Treasury) in trust for the district bank to be used in making transfers to other federal reserve banks or to the United States Treasury. Such transfers may be large owing to the clearing house operations of the bank and its fiscal relationship to the government. This gold may be included in the reserve against deposits and federal reserve notes.

3. Gold with foreign agencies. Gold is also kept with agencies which have been established in foreign countries. By this means it is not necessary to make so frequent shipments in the settlement of foreign transactions. This also may be considered as part of the reserve.

4. Gold with federal reserve agents. This is the gold which has been deposited with federal reserve agents as collateral for federal reserve notes taken out. It will be noted that this is more than one-half of the total gold held, and, as already pointed out, indicates that a very considerable amount of the federal reserve notes has been issued in exchange for gold. This gold may also be considered as part of the reserve against notes.

5. Gold redemption fund. Each federal reserve bank must keep with the Treasurer of the United States a small amount of gold for the redemption of its notes (Section 16, paragraph 4). This is included in the reserve against notes.

The foregoing five items added together constitute the total gold reserves to protect deposits of member banks and note liability.

6. Legal tender notes, silver, etc. In addition to gold the bank holds other forms of legal tender money. This may be counted as part of the reserve against deposits, but not against note issues.

Item 6 added to the previous gold reserves makes the total reserves on hand.

7. Bills discounted, secured by government war obligations. These represent loans made to co-member banks. The item is a large amount due to the government's extensive financing. The Federal Reserve Act specifically authorizes a federal reserve bank to discount bills secured by collateral in the form of government securities as well as on commercial paper.

8. All other bills discounted. This item refers to commercial paper of the classes admissible under the act, which the bank has discounted for member banks, and also includes bills discounted for other federal reserve banks, and bankers' acceptances bought from other federal reserve banks with or without their indorsement. This item, together with No. 9 following, measures the extent to which the district banks are providing credit based on the ordinary transactions of business.

9. Bills bought in the open market. Bankers' acceptances are included in this item.

10, 11, 12. United States government bonds, Victory notes, and certificates of indebtedness. These represent the investment of the bank's funds in government securities, and, like No. 7, show the extent to which the bank is involved in government financing. The sum of the bills discounted, bills bought, and government securities, makes up the earning assets of the bank from which it derives its profit.

13. Bank premises. This is self-explanatory, representing the value at which the office and its equipment is carried upon the books of the bank.

14. Uncollected items and other deductions from gross deposits. This item refers to credits which are in process of collection, particularly through the clearing house operations of the bank.

15. Five per cent redemption fund against federal reserve bank notes. Just as national banks are required to keep with the Treasurer of the United States a fund of 5 per cent of the bond secured currency, so a federal reserve bank which is taking out this form of currency, must maintain a redemption fund.

16. All other resources including miscellaneous, suspense, and adjustment accounts.

11. Liabilities.—On the liabilities side of the balance sheet the following items appear:

17. Capital paid in. This is the capital stock subscribed by the member banks of the district.

18. Surplus fund. Each federal reserve bank accumulates a surplus out of its earnings.

19. Government deposits. This has already been explained on page 330.

20. Due to members—reserve account. This item refers to the deposits which the member banks have made in accordance with the provision that these institutions must keep their reserve against deposits with the federal reserve bank of their district.

21. Deferred availability items. Each member bank must keep on deposit with its federal reserve bank a certain sum to provide for the settlement of adverse balances arising in clearing-house operations. It also includes favorable balances which member banks are credited with and which have not yet been withdrawn or transferred to the deposit reserve account. (No. 20.)

22. Other deposits, including foreign governments credits. Banks which are not member banks, as well as foreign governments and banks, may have deposits in the federal reserve bank.

23. Federal reserve notes in actual circulation. This represents the total amount of outstanding notes which has been issued by the Federal Reserve Board through the reserve agent to this particular bank. Any notes which the bank itself may hold not yet paid out are not included.

24. Federal reserve bank notes. These notes are explained on page 326. The sum given in the balance sheet is the amount which the New York bank has taken out less the cash which has been deposited with the Treasurer of the United States for their retirement.

25. All other liabilities.

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CHAPTER XXVI

ACCEPTANCES

1. The Use of Bankers' Acceptances Illustrated.—A bankers' acceptance, within the meaning of the federal reserve regulations, is defined as a draft or bill of exchange of which the acceptor is a bank or trust company, or a firm, person, company, or corporation engaged in the business of granting bankers' acceptance credits. In order to illustrate the operation of bankers' acceptances in domestic transactions, let us suppose that Buyer and Company of New York have purchased some goods from Seller and Company of St. Louis. Seller and Company demand immediate cash payment, but Buyer and Company, not having sufficient funds at their immediate disposal, apply to their bank in New York for assistance. Instead of following the old practice of borrowing funds on a note, they arrange with their bank to authorize Seller and Company to draw a draft on the bank at, say, 60 days' sight. Having shipped the merchandise, Seller and Company proceed to draw the draft and then take it together with the shipping document to their bank in St. Louis, which receives the item for collection, and sends it to a New York correspondent, which in turn presents it to the drawee (Buyer and Company's bank) for acceptance. Whether or not the firm in New York is known by the firm in St. Louis makes very little difference to the latter if it can produce a letter stating that the New York bank will accept its draft. This bank will accept the bill provided all necessary shipping documents conveying and securing title of the merchandise to itself are attached. Upon acceptance the bill becomes practically the same as a promissory note of the drawee and is given wide negotiability.

The disposition of the draft will now depend upon instruc-

tions from the St. Louis bank. The latter will probably stipulate either that the draft be held until maturity for payment or that it be sold in the New York market, the proceeds being placed to the credit of the St. Louis bank; or it may require that the acceptance be returned to St. Louis. At the time of acceptance the drawee bank detaches and retains the shipping documents, the final disposition of which will depend upon the agreement between the bank and its customer.

2. No Cash Advanced by Accepting Bank.—It will be noticed that in the illustration the accepting bank did not advance any cash but simply loaned its credit. Of course, it will expect its client to provide the necessary funds before the expiration of 60 days to meet the draft at maturity. The turnover of the merchandise purchased by Buyer and Company will probably have supplied these funds and will have thus made the transaction self-liquidating.

Although the accepting bank did not advance any cash, its credit risk was precisely as great as if a money loan based on the same collateral had been made to Buyer and Company. The bank became legally bound to pay the draft at maturity even if Buyer and Company did not provide the necessary funds before the expiration of 60 days. Whatever loss resulted from the default, if the collateral (shipping documents) had been surrendered or did not realize sufficient proceeds to cover the acceptances, would be borne by the accepting bank. The bank will, of course, charge a commission for its risk and service. Although the rates for acceptance commissions vary, depending upon the time as well as the risk involved, the customary charges range from 1/4 to 3/8 per cent for every 90 days or from 1 to 1 1/2 per cent per annum.

3. Shipping Documents.—Let us now return for a moment to the matter of the shipping documents retained by the drawee

bank at the time of the acceptance of the draft. Buyer and Company will wish to obtain these documents for the purpose of getting the merchandise from the railroad company, which will demand the bill of lading before surrendering the shipment. In order to provide the greatest practicable security the most desirable thing for the bank to do would be to require its customer to store the goods in a public warehouse to be held there under the bank's control, properly insured, until Buyer and Company provided sufficient funds to release them and meet the draft at the expiration of 60 days.

To accomplish the transfer of the merchandise from the railroad to the warehouse, it would have been necessary for the bank to surrender the shipping documents to its customer on a trust receipt, which would be temporarily accepted pending the delivery of the warehouse receipt. However, the bank may, if it chooses, grant Buyer and Company more liberal terms by surrendering the documents to them without requiring any collateral security and the acceptance would comply with the Federal Reserve Act and be eligible for rediscount.

4. Diagrammatical Representation.—The diagram in Form 19 illustrates the financing of the shipment in the example considered above. Each step is numbered in order and the explanation of the several steps is as follows:

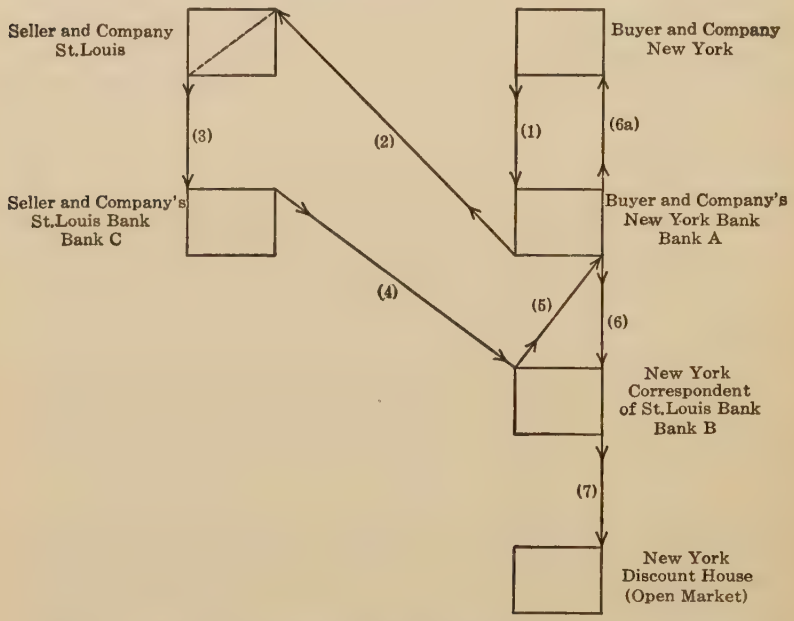
1. Buyer and Company arrange with their New York bank (*A*) to open a 60 days' acceptance credit in favor of Seller and Company of St. Louis.

2. Buyer and Company's New York bank (*A*) forwards to Seller and Company a domestic letter of credit authorizing drafts for not more than a specified sum, say, $65,000, when drawn at 60 days' sight and accompanied by bill of lading and insurance certificates.

3. Having arranged shipping details and having provided for insurance, Seller and Company draw a draft on the New York bank (*A*) at 60 days' sight for the amount of the shipment, say, $64,898.50, and attach to it their own invoice, original bill of lading, and insurance certificates. The

draft with documents is then turned over by Seller and Company to their St. Louis bank (*C*) for collection.

Instead of receiving the item for collection the St. Louis bank (*C*) might have purchased (discounted) it. If this were done the St. Louis bank (*C*) would immediately forward the item to its New York correspondent (*B*)



Form 19. Diagram Illustrating the Financing of a Shipment of Goods by Means of Bankers' Acceptances

with instructions that the draft be presented for acceptance and then held until maturity for payment, or sold in the New York market, the proceeds being placed to the credit of the St. Louis bank, or returned to St. Louis. Many banks offer to market bills on behalf of their customers, the chief reason being that a bank actively engaged in acceptance business has better access to the discount market and closer familiarity with houses offering the best rate and having the widest distribution for bills than is possible for the individual merchant.

4. The St. Louis bank (*C*) forwards the draft with documents to its correspondent bank in New York (*B*).

5. The New York correspondent (*B*) of the St. Louis bank presents the draft with documents to the drawee bank (*A*), that is, Buyer and Company's bank, for acceptance.

6. After having accepted the draft the drawee bank (*A*) retains the documents but returns the draft itself to presenting bank (*B*), that is, the correspondent of the St. Louis bank.

6a. In accordance with customary arrangements the shipping documents are released to Buyer and Company by their bank (*A*) under a trust receipt. Buyer and Company surrender the bill of lading to the railroad company and obtain the goods. In some cases banks, upon delivery of bills of lading or other evidences of property held to secure payment of the bill, demand some sort of collateral to be held by the bank pending the removal from the warehouse or railroad and sale of merchandise described in the bill of lading. But if a customer is of undoubted credit standing and well known to the bank holding the documents, the use of a trust receipt or collateral is waived.

7. The New York bank (*B*), upon order from its St. Louis correspondent, sells the acceptance for the latter's account in the New York market.

5. Wide Use of Bankers' Acceptances.—Under the Federal Reserve Act the use of bankers' domestic acceptances is not restricted to transactions based on an actual sale and shipment of goods; banks are permitted to accept drafts secured by warehouse receipts or other documents conveying or securing title covering readily marketable staples. In different sections of the country during the crop-moving periods there is a greater local demand for money than the immediate available supply in that region. At the same time there are, very likely, banks in other districts which have surplus funds awaiting investment. For the purpose of drawing upon these surplus funds and equalizing the interest rates between different sections of the country, the Federal Reserve Act provides a simple but effective means.

Suppose a southern cotton-buyer has requested his bank in Dallas to help him finance some cotton which he has in storage awaiting shipment. Furthermore, assume that the Dallas bank has loaned all of its available money and therefore is not in a position to advance any funds to its client on the basis of his

promissory note, receivables, or other paper. The bank may, however, loan the cotton-buyer its credit, that is, agree to accept drafts drawn upon it when they are secured by the proper warehouse receipts and insurance papers. Upon acceptance this instrument can be readily sold to bankers in other parts of the country who happen to have surplus funds at their disposal.

Although bankers' acceptances occupy a prominent place in domestic transactions, they play a rôle of greater importance in financing imports and exports. Under the federal reserve regulations, bills drawn under a credit opened for the purpose of conducting or settling accounts resulting from a transaction or transactions involving the shipment of goods between the United States and any foreign country or between the United States and any of its dependencies or insular possessions or between foreign countries, are eligible for rediscount. Any federal reserve bank may also acquire drafts or bills drawn by a bank or banker in a foreign country or dependency, or insular possession of the United States for the purpose of furnishing dollar exchange under prescribed conditions.

The extensive use of bankers' acceptances in financing imports and exports is indicated by the large number of American branch banks and agencies which have been opened in foreign lands since the passage of the Federal Reserve Act. An idea of the importance of the dollar acceptance and "dollar exchange" is to be gained from a statement of Paul M. Warburg:

> There are outstanding today (June 10, 1919), drawn in almost every part of the globe, approximately $500,000,000 in American bankers' acceptances. But this is only the beginning. Some months ago I ventured the prediction that in the not too distant future we should live to see American bankers' acceptances reach the billion dollar mark, and I have no hesitation in reaffirming the opinion.

6. Necessity of Bankers' Acceptances for a Discount Market. —Before the inauguration of the federal reserve system in 1914

our banking system lacked a standardized credit instrument and this made a broad discount market an impossibility. If we had no well-defined methods of grading cotton, dealings on the Cotton Exchange would be very limited if at all possible. The same holds true in the case of tobacco, grain, wool, and many other commodities. The bank acceptance is a credit instrument in which the element of risk has been reduced to a negligible factor because direct responsibility for its payment rests on banking institutions whose standing is generally well known. In order to throw light upon the importance of bank acceptances in this connection, it is helpful to consider rather briefly the principal functions and features of a discount market.

The most important function of a discount market is to furnish a central reservoir of commercial credit by means of which individual banks may regulate their investment and cash position. A broad discount market operates as an equalizer of interest rates not only between different sections of the country but also between the United States and foreign countries. For instance, if banks in one district have surplus funds, their purchases of acceptances in the discount market will tend to raise interest rates in that district to the level in other districts. Similarly in the case of the United States and foreign countries, the purchase or sale of bills moves funds from countries where interest rates are low to those where interest rates are high. It is understood, of course, that to some extent inequalities will continue to exist even within a country on account of lack of complete mobility of banking funds and minor differences in risk.

A broad discount market also tends to stabilize gold movements between countries. In the past gold was frequently exported or imported when it was clearly foreseen that existing conditions were but temporary. By making it possible for banks to accumulate in their portfolios supplies of foreign bills and to sell them when the market conditions are favorable for making a profit, many unnecessary gold shipments can be prevented.

The prevention of unnecessary gold movements and the development of a closer relation between interest rates here and abroad tends to produce greater stability of interest rates within the United States. This is mainly due to the fact that large reservoirs of credit are not subject to sudden movements in the same measure that smaller ones are.

The component factors of a discount market are:

1. The banks that create the acceptance.
2. The banks and others who purchase and sell acceptances.
3. The central bank of rediscount (in the United States the 12 federal reserve banks).
4. Discount houses, brokers, and other middlemen.

7. Abuses of Bankers' Acceptances.—In discussing certain abuses of bankers' acceptances, Mr. Warburg has stated:

> With respect to bankers' acceptances, permit me to give you just a few illustrations: it is clear that the Federal Reserve Act when authorizing domestic acceptances contemplated two kinds of credits; one—acceptances secured by readily marketable staples—but not to be secured by any other kind of goods—and two, credits to finance the transportation of any kind of goods. In both cases the law prescribes that documents—warehouse receipts or bills of lading, respectively—are to be attached when the acceptance is made. Power, however, is given to accepting banks to release documents in order to facilitate the handling of the goods. But you can readily see that abuse is possible by presenting documents at the time the acceptance is made and using these documents over again, after release, to secure another credit. You can easily imagine, moreover, how under the guise of financing a domestic transportation lasting only a week or two, a 90-day credit might be secured, which thus might serve to carry articles other than readily marketable staples. It is evident, furthermore, how easily, by this method, these acceptances may be turned into unsecured transactions; and unsecured credits amounting in the aggregate to 20 per cent of the capital and surplus of a bank may

thus be granted to one single party instead of 10 per cent as provided as the limit for similar loans under the National Bank Act. Should the law be amended so as to prevent such abuses, or should the federal reserve banks and the accepting banks get together and adopt measures to stop bad practices of their own accord? I do not think there can be any doubt as to which would be the better course.[1]

8. Trade Acceptances.—A trade acceptance is a bill of exchange drawn to order, having a definite maturity and payable in dollars in the United States, and bearing on its face or accompanied by satisfactory evidence that it is drawn by the seller of the goods on the purchaser of such goods. Such evidence commonly consists of a statement on or accompanying the acceptance to the following effect: "The obligation of the acceptor of this bill arises out of the purchase of goods from the drawer."

For the purpose of illustrating the use of the trade acceptance let us assume that a New York firm called Buyer has purchased some goods from a St. Louis firm called Seller. In rendering an invoice for any single purchase that is reasonably large in amount, Seller will send at the same time a trade acceptance form properly filled out. In cases where Buyer purchases several bills of small amount, Seller when rendering a monthly statement will accompany the same with a trade acceptance for the total amount. Upon receipt of the trade acceptance Buyer has the choice of either accepting it or paying the bill in cash. Should he choose the second plan he will deduct such cash discount as is allowed under the terms of transaction which have been previously agreed on. On the other hand, if Buyer follows the first method he will stamp across the face of the trade acceptance the date and the words "Accepted, payable at — Bank," and then sign it and return it to Seller. Seller may then dispose of the acceptance in a number of ways. He may hold it

[1] Acceptances in Our Domestic and International Commerce, pamphlet published by American Acceptance Council, p. 23.

in his portfolio until a few days before it becomes due, when he will turn it over to his bank for collection. If he does not retain the acceptance until then, he will probably use it for raising funds in the meantime by selling it with a number of other trade acceptances to his banker or in the open market through brokers or dealers in commercial paper. Finally, as a third possible method, Seller may borrow from his bank on his single-name promissory note and use the acceptance as collateral.

In reference to the place of payment of a trade acceptance the law specifies that it shall be the office of the acceptor (the buyer of the goods) unless a different place be designated on its face, such as the acceptor's bank, and this is the customary method.

9. Advantages of Trade Acceptances.—Trade acceptances offer many advantages to the banker and to the buyer and seller of the merchandise. The more important of these advantages may be summarized as follows:

1. Trade acceptances are usually self-liquidating because the acceptor receives certain merchandise out of which the trade acceptance has arisen and from the sale of these goods he expects to obtain the necessary funds to meet the obligation at maturity.

2. When a banker discounts a trade acceptance he receives two-name paper, which is generally safer than a single-name note.

3. When a banker discounts a trade acceptance he knows from looking at the face of the instrument what the credit was extended for, but in the case of a single-name note the borrower makes it out for a round sum and may either fail to state the purpose for which the proceeds are to be used or he may explain his object in only a general way.

4. The law providing against a loan to any one person of more than 10 per cent of the capital and surplus of a bank does not apply to trade acceptances.

5. Trade acceptances as paper for rediscounting are looked upon with particular favor by federal reserve banks.

6. Secret assignments of book accounts for the purpose of raising cash present many objections. The use of trade acceptances overcomes in a legitimate nanner all such disadvantages and leaves very little excuse for such practice.

7. Bankers to whom trade acceptances are presented for collection or for discount have an opportunity of gaining information in regard to the credit standing and character of those who have given acceptances.

8. When trade acceptances are generally used and open book accounts are less common, bankers will be in a position to keep in close touch with local credit conditions because practically all trade acceptances are forwarded for collection through banks.

9. Whereas in the past bankers usually expected that a borrower's quick liabilities would not exceed 50 per cent of his quick assets, it is now felt that the introduction of the trade acceptance will make it advisable for the 50 per cent rule to be modified.

10. Discount companies, brokers and other concerns in the open market provide a ready means for disposing of such paper.

11. The principal mission of the trade acceptance, however, is to liquify credit, improve merchandise turnover, and minimize credit losses.

10. Objections to Use of Trade Acceptances.—Although the foregoing arguments might seem to leave very little to be said on the other side of the case, nevertheless many practical objections have been raised which those who favor the use of trade acceptances have been unable to answer satisfactorily. A number of organizations, including the Philadelphia Board of Trade and the Commercial Law League of America, have adopted resolutions opposing the use of trade acceptances. The opposing arguments may be summarized as follows:[2]

[2] See Trade Acceptances, Supporting and Opposing Arguments, pamphlet published by Chamber of Commerce of U. S. (1918, Washington).

1. Under existing commercial practice most trades in the United States have become habituated to the cash discount system whereby the seller allows the buyer to deduct a certain percentage from the face of the invoice for payment within a given number of days. Buyers may be divided into three classes:

First grade: Those who habitually discount.
Second grade: Those who pay bills when due.
Third grade: Those who are delinquent.

Naturally, the first grade of buyers will pay cash and therefore trade acceptances will be used for the most part when discounts are available only by an inferior credit risk or a poor business man.

2. Unless the seller has a monopoly or is in a position to practically enforce his terms of sale, buyers who pay their bills promptly as they mature will ordinarily refuse to sign a trade acceptance, and, furthermore, will be antagonized by a request to do so.

3. "The cash discount system takes the burden of insuring credits from the seller and distributes it among thousands of banks where buyers borrow. It diminishes risks, because the local banker can estimate better than one at a distance the personal equation of the borrower and other elements that enter into the calculation."

4. Whenever a merchant takes a trade acceptance from his customer and discounts it at his bank, he must indorse it. To the extent of his liability as indorser the merchant is still carrying the account as before. It he adopts this plan generally, it means that he is an indorser for all of his customers and therefore contingently liable to the full extent of their purchases.

5. The open account system is more simple than a system which requires the handling of a piece of paper, and the indorsement of it, by the purchaser and seller of the goods and the lending bank.

6. Under the "cash discount—open account—single-name paper" system, payments are made by the purchaser sending his remittance directly to the seller in the form of a check which may be cleared in most cases without a collection charge. Trade acceptances, however, are more difficult to collect than checks and banks usually make a charge for the service. In view of the objections that have been raised trade acceptances are not likely to gain rapid favor in many trades. The system of open accounts, with cash discount and single-name paper, has become so strongly established in our domestic commerce that the burden of proof will probably continue to weigh heavily on those who would replace this system with another.

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Among the banks and trust companies who have published useful pamphlets on acceptances are the Irving National Bank, N. Y.; National City Bank of New York; National Bank of Commerce in New York; American Exchange National Bank, N. Y.; Guaranty Trust Company of New York, N. Y.; Mechanics and Metals National Bank, N. Y. Useful pamphlets have also been prepared by the American Acceptance Council, 111 Broadway, N. Y. This organization also publishes a monthly periodical, *Acceptance Bulletin*.

CHAPTER XXVII

PRINCIPLES OF FOREIGN EXCHANGE

1. Equilibrium of Exchange.—Changes of a fundamental character affecting our trade and financial relations with other countries were brought about by the war. Previous to 1914 the United States occupied the position of a borrowing nation on account of large foreign investments. The vast untouched resources of our country afforded opportunity for cheap production of foodstuffs and raw materials of which the European countries particularly were in need. In the earlier years of our development most of the immigration from Europe was from those countries which were highly advanced in industrial methods and which had large accumulations of capital. Under such circumstances it was a natural outcome that capital should flow from Europe to the United States for investment, and that the income from this capital, unless reinvested here, should become a charge against us in the foreign exchanges.

For some ten years preceding the war the average annual trade balance in favor of the United States on merchandise account was approximately $500,000,000 and it was practically offset by what is usually known as the "invisible account." That is to say, the United States and other nations, like individuals, are constantly buying from each other services as well as physical goods. To be more exact, the figures upon which the so-called favorable trade balance is based are taken from the official reports of the Department of Commerce, which show the amount of commodities entered or cleared at our various ports. But these figures do not contain any of the invisible items of trade, such as interest and dividend payments upon American securities held abroad, commissions of foreign bankers, premiums on policies of

foreign insurance companies, charges of foreign shipping against our merchants, expenses of American tourists abroad, remittances of immigrants to relatives in the old countries, etc.

As a result of the war we have bought back most of the American securities which were held abroad, and the interest and dividends upon them hereafter will not be a large item for settlement in international exchanges. In the future the development of a large fleet of merchant ships will probably make it possible for us to carry a greater portion of the overseas trade. Moreover, private and governmental loans to Europe have suddenly changed our position from a debtor to a creditor nation.

The question may be asked as to what effect the shifting of the balance of payments in the invisible account will have upon our foreign trade. It is obvious that a country's receipts and payments in international commerce must balance in the aggregate. Nothing changes hands except for some equivalent. A country which has borrowed capital abroad must not only pay for all the merchandise that it imports but must also meet its interest charges. Normally, therefore, a debtor nation exports more merchandise than it imports, and a lending nation imports more than it exports.

The terms "unfavorable" and "favorable" trade balances are misleading. It is customary to say that the exchanges are in our favor when the dollar is at a premium as measured in other currencies, which is the same thing, of course, as the other currencies being at a discount. The exchanges are in our favor in the sense that at the time under consideration we are exporting more than we are importing and that the dollar has arisen in value in the money markets of the world. They are in our favor for importing purposes, but they are not in our favor for exporting purposes. When dollar drafts are at a premium American goods cost more to foreign buyers and consequently a premium on dollar exchange operates in the same way as a tariff barrier abroad.

2. Settlement of Foreign Balances.—As between individuals there are only three ways in which a financial settlement can be effected. They are: cash, trade, and credit. As between nations the situation is much the same. Just as cash plays a minor part as compared with checks and drafts in domestic business, gold, which is the cash of international transactions, is used for settling a relatively small amount of the world's foreign trade. Even if there had not been developed the machinery of bills of exchange and telegraphic transfers for settling international transactions, the use of gold would be limited for physical reasons. The total amount of gold in the world is relatively small when compared with the yearly volume of foreign trade of all nations. To be more exact, according to the report of the Director of the Mint for 1919, a conservative estimate of the world's gold monetary stock is $9 billion. The total imports and total exports of the principal countries of the world are probably about six times as great as the gold monetary stock, or considerably more than $50 billion.[1]

Essentially, foreign trade involves the exchange of goods and not money. Naturally, a nation cannot expect to increase its exports without reckoning with a corresponding growth in imports. To be sure, the extension of credit by the selling nations to the buying nations may postpone the operation of this principle of reciprocity, but ultimately the debt will be liquidated through goods and not gold. A brief consideration at this point of the major steps in the foreign banking operations required to finance purchases and sales of merchandise abroad will be helpful.

If the London branch of the Associated Trust Company of Boston collects £50,000 which B in Leeds owes A in Boston for shoes, and the bank's main office here collects £50,000 which C in Boston owes D in Manchester for woolens, it is evident that the shipments of merchandise have effected an exchange without

[1] See latest Statistical Abstract of the United States.

the transfer of any cash or the creation of any final debt. The Boston bank debits its London office for the value of the shoes and credits it for the value of the woolens. Similarly, the London bank debits its Boston office for the value of the woolens for which payment has been made to D, and credits it for the value of the shoes. The merchants in both countries have settled their transactions in full; the two branches of the banking house are square; and £100,000 in business has been consummated without requiring the use of a single coin.

If the shoes had amounted to £60,000 instead of £50,000, the difference might have been made up by the Boston bank arranging to make payment for a local importer who had bought £10,000 of cutlery from a Sheffield dealer.

Naturally, in actual practice it is not to be expected that payments for merchandise imports will exactly match payments for exports. During and following the war the exports of the United States exceeded the imports, causing a heavy foreign credit balance in our favor to be established. From time to time this balance was reduced by shipments of gold to this country and by our extension of large credits to foreign countries. It is not to be assumed, however, that this situation alters the truth of the undisputed economic principle of reciprocity. According to this principle the total value of the merchandise and services sold by any country to all other countries must in the long run equal the total value of the merchandise and services bought by that country from all others; and the price-determining forces in the world's markets automatically check the continued flow of money into or from any country.

3. What Foreign Exchange Is.—"Foreign exchange," as the term is commonly employed, covers in its broadest sense all the variety of monetary and credit instruments used in the settlement of international transactions. It includes bills of exchange, cable transfers, gold, silver, currency, international money-orders,

international reply coupons, travelers' checks, stocks, bonds, bond coupons, and interest and dividend checks.

Just as the check is the most common instrument for making domestic payments, the foreign bill of exchange is the principal medium for settling debts between the business men of one country and those of another. Foreign bills of exchange are similar to domestic drafts and are simply written orders drawn by one person upon a second and made payable to a third party, or possibly to the drawer himself. Below is an example of bill drawn by a merchant in the United States upon a London bank:

£800 New York, N. Y., December 20, 1921.

Sixty days after sight of this First of Exchange
(Second of the same tenor and date unpaid) pay to the order of ourselves eight hundred pounds.
For value received and charge to account of

To London and Liverpool Bank, Ltd.
London, E. C., England.
No. 165

MERCHANTS EXPORT COMPANY
Sherman Noyes
Treasurer

4. Classification of Foreign Bills of Exchange.—Foreign bills of exchange may be classified in a number of ways:

1. As to maturity:
   (a) Demand or sight bills or bankers' checks—payable immediately on presentation.
   (b) Short bills—payable within a month from time of acceptance.
   (c) Long bills—payable after a month from time of acceptance.
2. As to whether drawn payable after sight or after date:
   (a) Drawn payable so many days after sight, that is, after acceptance.
   (b) Drawn payable so many days after date (not common in foreign exchange).
3. As to domicile:
   (a) Sterling drafts, also called "sterling exchange"—payable in pounds in England.
   (b) Franc drafts—payable in francs in France.

(c) Dollar drafts, also called "dollar exchange," or "dollar acceptances"—payable in dollars in United States.
(d) Bills on other countries.

4. As to whether bearing collateral security or not:
(a) Documentary bills—having attached bills of lading and other shipping papers.
(b) Clean bills—with no documents attached.

5. As to parties to instrument:
(a) Bankers' bills, bankers' drafts or bankers' checks—drawn by one bank against another.
(b) Commercial bills—drawn by a merchant against another merchant or the latter's bank.

6. As to nature of transaction:
(a) Grain bills.
(b) Cotton bills.
(c) Finance bills—drawn for purpose of borrowing funds in foreign money markets.

5. Foreign Exchange Markets.—International trade, like domestic trade, has created certain important money markets where the great bulk of exchange transactions are handled. By maintaining balances at these points banks in other parts of the world can sell drafts, or the right to draw them, to persons who wish to make payments abroad.

In order to build up these balances with foreign correspondents, local banks must buy for remittance bills of exchange or other foreign items from customers or from other banks. Briefly, therefore, the foreign exchange transactions of a bank are for the most part connected with the hundred and one operations necessitated in the buying of commercial bills from one set of customers for foreign remittance, and the selling to another set of customers drafts drawn against the proceeds obtained abroad. Of importance also are dealings of a bank to cover its position in the market so that speculative losses may be avoided.

Before the war London, by occupying much the same position with respect to the commerce of the world as New York

holds in the trade of the United States, was the leading international money market, and sterling exchange was looked upon as the international money par excellence. During recent years the wide fluctuations in sterling drafts have increased the element of risk involved in settlements through London and have caused dollar acceptances to enjoy greater favor than previously, particularly with American business houses.

6. Dollar Exchange.—Until after the passage of the Federal Reserve Act in 1913 national banks were not permitted to accept time drafts drawn against them. It became the customary practice for exporters in other countries who were sending goods to the United States to draw their drafts against credits opened by American importers in London, Paris, or some other foreign center. Occasionally, however, drafts were drawn on the American importer himself, but unless the latter had an international reputation his acceptances did not find a ready discount market abroad and consequently were not a desirable form of settlement to the foreigner. At present member banks in the federal reserve system are authorized to accept drafts drawn against them which have not more than 6 months' sight to run, resulting from transactions involving the importation or exportation of goods. The law also permits member banks to accept dollar drafts that are not connected with the specific shipment of merchandise, but which are drawn by banks or bankers[2] for the purpose of transferring funds for any legitimate object as required by the usages of trade in the countries of their origin. This provision enables American banks to make convenient arrangements to maintain balances abroad and foreign banks to do the same thing in the United States.

Another factor contributing to the development of the use of dollar exchange is the authority granted to American banks to

[2] Individual merchants may not draw dollar exchange of this second class; the drawer must be a bank or banker.

establish foreign branches. Particularly, many of the large banks located at the seaboard have taken advantage of this provision and have opened branches in the principal foreign banking centers.

7. Par of Exchange.—To explain the movements of exchange rates in a simple manner was never an easy matter and the erratic fluctuations brought on by the war have not been conducive to greater simplicity of the task. A convenient rule-of-thumb to remember is that whenever the United States becomes indebted to another country, whether it be for merchandise purchased or on account of freight, insurance, or other charges against us, a demand is created for foreign exchange in this country in order to transfer funds abroad, thus tending to cause the rates to advance. Similarly whenever a foreign country becomes indebted to us for any reason, funds must be transferred in our direction, thus increasing the supply of foreign exchange available for sale in the United States and therefore tending to cause the exchange rate to decline.

The rates of exchange are in the first instance determined by the intrinsic relation of the monetary unit of one country with that of another country. For example, the gold sovereign contains 113.002 grains of pure gold, and is therefore 4.8665 times the amount of pure gold contained in the gold dollar, which is not coined but amounts to 1/10 of the pure bullion contents of the $10 gold piece (232.2 grains). This relation between the monetary units of two countries, which is found in the case of countries on a gold basis by comparing the pure bullion contents of the units in question, is called the "par of exchange." Just as $4.8665 is found to be the par of exchange between the United States and England, the par of exchange between the United States and France is $.1930, between the United States and Germany $.2382, etc. Between countries on a gold basis, par of exchange is invariable as long as the pure bullion contents

of the coins being compared remain unchanged, or, in other words, until one of the countries in question adopts a new coinage law.

In the case where one country is on a silver basis and the other is on a gold basis, a momentary par of exchange is found by comparing the market value of the pure bullion contents of the respective coins. Naturally, the par of exchange between the United States and China will be different when silver is quoted at 90 cents per ounce than when it is quoted at 75 cents an ounce.

8. Movements Above and Below Par.—If it cost nothing either in the way of transportation or interest charges to ship gold between two countries on a gold basis and there were a perfectly free gold market at both ends (that is, if there were no restrictions on gold exports and the paper money in each country was convertible into gold), the rate of exchange would always be at par. Let us consider the exchange between the United States and England before the war. At that time England was not on an inconvertible paper basis as at present (1922) and it was possible for a person holding a pound sterling note or demand draft to convert it immediately at face value into gold sovereigns. Furthermore, there were no governmental restrictions on export shipments of gold from that country. Under these conditions the holder of a sterling demand draft in the United States would not sell it for any sum less than the equivalent in United States money of the sum due in England after deducting the cost of sending the gold to this country, because with the British gold the American could obtain at the mint or in the market our money at the ratio of $4.8665 for 1 sovereign. Similarly, an importer in the United States who wished to remit funds to Great Britain would have the choice of shipping actual gold in case the exchange rate went far enough above par (before the war about 2 1/2 cents per sovereign) to make it profitable. The rates above and below par at which gold shipments take place

are called the "upper" and "lower" gold points; they are not absolute but vary from time to time as shipping costs decrease or increase.

9. Effect of Depreciated Paper Money.—The stabilizing influence on the exchange rates that was produced before the war by unrestricted gold shipments disappeared shortly after the outbreak of hostilities, when the principal European countries took measures to protect their gold reserves. Gold disappeared from circulation and these countries, by suspending the redemption of paper money in gold coin, automatically changed from a gold to an inconvertible paper basis. In determining the rates of exchange between the United States and England or France or Italy, the original par of exchange in each case began to exert a smaller and smaller influence as these countries increased their issues of paper money and thus departed farther and farther from their gold bases.

Paper money is a promise to pay on demand basic or standard money. Basic or standard money in the United States and Europe is a piece of gold bearing the stamp of the issuing government. The stamp is primarily a certification of weight and fineness and has no other commercial significance; in international money transactions, gold exchanges according to its weight and fineness. So long as a nation keeps its promise to pay, on demand, gold for paper money the latter remains at parity with gold. When the promise is suspended, however, gold is driven out of circulation, prices in general are quoted in the paper money, and gold money commands a premium. If it is expected that gold payments will not be resumed in a short time, the premium will be large. Obviously the quantity of paper money outstanding will be an important factor influencing this situation. At any given time the value of such paper money is affected by every rumor which has to do with the credit of the issuing government. Thus during the Civil War the price of gold in terms of green-

backs rose and fell according to whether final victory seemed to favor the Union or Confederate armies. But, what is still more pertinent to the present problem, the price of gold and the price of sterling exchange moved very closely together in New York from 1862 to 1879, when greenbacks finally came to par with gold.

Without the stabilizing influence of unrestricted gold shipments, exchange rates become speculative and may conceivably fluctuate within almost any limits. The rate or price at any time is determined, like the price of commodities, by the forces of supply and demand. But the character of the supply and demand depends not only upon the industrial and financial conditions of the countries under consideration, but it is also affected by all kinds of rumors, such as concerning plans for granting large credits by the United States, internal difficulties, etc. All those things which tend to contribute toward the greater economic production of European countries will make possible larger exports by them, and thus, through increasing their credits in the foreign exchanges, will tend to bolster their exchange rates. Practically speaking, it is difficult to conceive how foreign exchange rates on Europe can be brought back to par until it is evident that these countries will shortly resume specie payments and make their paper money redeemable in gold at 100 per cent face value. Otherwise, even if the unfavorable trade balances against European countries were corrected, their exchanges would still be depreciated to the extent that their currency is depreciated internally. Naturally, this necessitates greatly improved economic conditions—the restoration of the normal methods of international trade by which goods are used to pay for goods, and the resumption finally of specie payments.

10. **"Pegging" Exchange.**—It is not to be assumed that foreign exchange rates are determined solely by commercial and banking factors. This would be the practical situation if we were

living in a laissez-faire régime; but particularly since the war movements of gold, interest rates and exchange rates have been subject to influences outside the free operation of the law of supply and demand. Governments exerting their influences through central banks and other channels adjust discount rates, borrow funds, and buy and sell gold, silver, and securities in such manner as to affect very decidedly the foreign exchanges.

During the latter part of the war the English, French, and Italian exchanges were "pegged," or fixed by agreement at a point somewhat below par, called the "war par." For instance, the rate of sterling exchange in the New York market was fixed by the British government at $4.76 7/16 from January, 1916, until March, 1919, by authorizing J. P. Morgan and Company to buy bills that might be offered in New York at that rate. When the plan was suspended a sharp decline in sterling followed. It was explained by some persons that by permitting British bills to decline to a point where remittances were made extremely costly to the English business man, purchases in the United States for import into Great Britain would be curtailed. This was bound to be a result; but whether it was the primary reason for the action taken, or whether some other motive was responsible, the official "pegging" policy would under any circumstances have had to be abandoned sooner or later on account of the inability of the British government to continue indefinitely to furnish J. P. Morgan and Company with funds to meet its commitments.

11. **Spread in Rates.**—Fundamentally, the spread in rates between drafts payable at different dates is a function of time and interest. As might be expected, demand drafts, which are payable immediately upon presentation to the debtor or drawee, will command a higher price than time bills, which need not be paid until a stated period of time has elapsed. But since the quickest way of remitting funds abroad is by cable, telegraphic

transfer rates will be higher in price than quotations for demand drafts.

Raising and lowering of the discount and interest rates abroad have an important influence on the rates of foreign exchange in American financial centers. To illustrate the point, let us assume that an American exporter has requested his New York banker to purchase a 60-day sterling bill on a London bank. The rate that the New York banker can offer for the bill will depend on the proceeds he expects to be able to realize from mailing the item to a London correspondent for discount and credit, and selling against this credit demand drafts in this country. Necessarily with a high London discount rate the proceeds of the 60-day bill, and consequently the sterling rate for it in New York, will be less than if the London discount charges were low. In the case of demand drafts the effect, if any, of a change in the London or other foreign discount rates is more limited but quite the opposite to that produced upon time bills. This is because higher interest rates abroad, if continued for any considerable period without a corresponding change in this country, will tend to cause American banks to loan more funds in foreign money markets and to withdraw less through the sale of demand drafts here. Not only will the supply of demand drafts thus be curtailed but there might be expected also in some cases an increased buying of demand drafts in this country for the purpose of remitting funds abroad to be loaned there.

12. Rate Adjustment.—If for any reason the rates should get "out-of-line," there are always persons ready to seize the opportunity for profit, thus causing the situation to be adjusted. For instance, if the rate in New York for demand drafts on London at a certain time was relatively cheap as compared with the rate for cable transfers, a banker in this country could buy demand drafts for remittance to London and sell future cables against the prospective credit. Another operation of this

same general nature is the selling of demand drafts against long bills.

To be more concrete, let us assume that a New York banker has purchased a 60-day sight bill for £10,000 drawn by an American exporter against a bank credit opened in London by an English importer. The New York banker will forward the draft immediately to London and may either instruct his correspondent to sell it in the discount market and place the proceeds to his credit or to hold it until maturity. If the instructions are that the draft is to be held for maturity, the New York banker can obviate the risk of exchange by either selling futures (demand or cables) or his own long bills of about the same maturity. If, on the other hand, he chooses the plan of having the bill discounted, he will be able to sell demand drafts at once against the proceeds. In order to show how this might result in the case mentioned, let us assume that the pertinent facts are as follows:

London "arrival"[3] discount rate for 60–day bills	6%
English stamp charges.....	1/20%
Rate for sterling demand drafts in New York.....	$3.40

CALCULATION:

1.	Amount of 60-day bill on London.....	£10,000
2.	Deduct discount (63 days' interest) at 6%.....	103.11.3
3.	Deduct English stamp charges 1/20%.....	5. 0.0
4.	Proceeds in London.....	£ 9,891. 8.9
5.	Proceeds in New York from sale of demand draft at $3.40....	$33,630.89

It is evident from this calculation that, if the proceeds from discounting the 60-day bill of £10,000 and selling it by way of a demand draft amount to $33,630.89, the 60-day rate should be approximately $3.363 (33,630.89 ÷ 10,000). Lack of consistency in the rates of these two classes of bills would, of course, cause bankers to buy the relatively cheaper and sell the relatively dearer until the situation was adjusted.

[3] London "arrival" or "forward" discount rate means the rate at which a London correspondent bank will undertake to discount a bill or parcel of bills "to arrive," to use the bankers' phrase. The rate is quoted by telegraph in advance of the shipment of bills.

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CHAPTER XXVIII

THE PROCESS OF FOREIGN EXCHANGE

1. Foreign Transactions of a Bank.—The foreign transactions of a bank have to do principally with:

1. The financing of merchandise imports and exports.
2. The financing of international sales and purchases of securities.
3. Interest and dividend remittances.
4. The borrowing and loaning of funds abroad.
5. The payment for international services rendered, such as freight and insurance or foreign travel.
6. The remittances by immigrants of funds to "the old country."
7. Dealings of a hedging or speculative character, as future sales, options, and puts and calls.

A merchant has at his disposal a number of methods of financing foreign shipments, and for convenience the principal ones may be enumerated as:

1. Open credits.
2. Cash with order.
3. Cash against documents.
4. Drafts drawn under commercial letters of credit.
5. Drafts drawn directly on the importer.

2. Open Credits.—By the term "open credits" is meant the usual book accounts, under which plan the seller, trusting in the honesty and financial ability of his customer, allows him to obtain merchandise without a documentary acknowledgment of the obligation, such as a note or an accepted draft.

As far as credits and financing are concerned, the trade between adjoining nations in Europe is handled in almost the same way as trade between the various states in this country. This fact has led to not a little difficulty for many American exporters selling their goods to European buyers who have not been accustomed to importing merchandise from overseas and who vigorously object to any other terms than "open credits." Merchants of the West Indies, Cuba, Mexico, and, in short, of all the Caribbean countries, have frequently requested "open credits" in dealing with foreign exporters. Partly as a consequence of the keen competition in these fields, and partly because so much of the trade consists of a direct exchange of imports and exports, a large amount of the business of American export commission houses with these countries is carried on through open credits.

The use of open credits in international trade, particularly when it is overseas, has some advantages but many more disadvantages. The advantages consist principally of eliminating the objections frequently made by foreign merchants to the purchase of goods that are subject to payment or acceptance of the draft attached to the shipping documents. These objections are usually based on three grounds: (1) unfamiliarity with this form of business; (2) that such terms are a reflection on the standing and character of the purchaser; and (3) that the acceptor of a draft becomes legally bound to pay at a certain time, whether it is convenient or not. Much has been done and is being done to remove these difficulties and to educate merchants in foreign trade to the fact that drafts and acceptances are the universal practice in all but a very small fraction of overseas commerce. The most convincing argument, of course, is the lower prices which the exporter can offer in case his firm through the sale of a draft may obtain immediate cash. Further, there may be pointed out the possibility of having the time of payment of drafts extended in case it is not convenient for them to be met when due.

While there are, no doubt, just as large, sound, or honest business firms abroad as at home, and although an occasional exporter will be found who will declare that his experience in extending open credits to foreign customers has proved satisfactory, the weight of evidence is against this method of conducting business.

3. **Cash with Order.**—A foreign importer is naturally reluctant to pay for his goods in advance. He may not know as much about the seller as the latter knows about him and he must be convinced that the seller is reliable before he will forward his money. The use of this method of financing shipments is decidedly limited, particularly in the case of an exporter who has just entered the field. The foreign merchant is mindful of instances of manufacturers abroad receiving, filing away, and forgetting his orders to which were attached bank drafts or money-orders. Other insolvent concerns have used funds remitted to them in advance and have failed before shipment was effected, with the result that the unfortunate foreigners' money passed with the other assets into the hands of receivers.

4. **Cash against Documents.**—The term "cash against documents" signifies that the importer will be required to make payment before the shipping documents, and therefore the control of the merchandise, is surrendered to him. Although the payment may be made at the point of origin, the port of export or import, or the place of destination, ordinarily the place of taking up the documents is within the exporter's country. The importer may provide for payment in a number of ways: He may remit a draft payable in the exporter's country to an agent who will thus be furnished with funds to take up the documents for him. He may induce a commission house, located near the exporter, to take up the documents for him, in which case there are

several possible arrangements between himself and the commission house. In the great majority of cases, however, an arrangement much more satisfactory than cash with order, and one which adequately protects both parties, is for the buyer to open a bank credit with a responsible bank in some convenient foreign exchange center. The bank which issues the credit may be located in the exporter's country, the importer's country, or in a third country. The institution which pays for the documents will reimburse itself in some appropriate and convenient manner at the expense of the importer's bank, and the latter will in turn collect payment from the importer himself. The bankers will of course receive commissions for their services.

5. Drafts Drawn under Commercial Letters of Credit.—A commercial letter of credit is an authorization issued by a bank in favor of the seller and specifying the terms under which he may draw drafts on it for what he has sold. The letter of credit is addressed to the seller and it customarily begins with some such opening statement as, "You are hereby authorized to draw upon the ABC Bank under the following conditions." A bank credit serves chiefly to give assurance to the exporter that he will be able to sell his draft for cash at the time of shipment. Where the drawee bank and the bank which grants the credit are different institutions, there frequently arises what is called the "confirmed credit." Without confirmation the exporter is in the beginning protected only by the engagement of the bank which has issued the letter of credit. In the case of a confirmed credit the drawee bank ratifies the original credit and agrees to accept the drafts of the exporter; the latter is thus given a right of action in contracts against this bank in case it should subsequently refuse to accept the instrument. After acceptance, however, a draft under an unconfirmed credit is just as good as one under a confirmed credit, because upon acceptance the drawee bank becomes fully and unconditionally bound to pay.

A broad basis of classification of letters of credit rests on the right of the issuing bank to rescind its engagement to honor drafts drawn by the beneficiary. If the credit-issuing bank reserves the right to withdraw from the undertaking the document is styled a "revocable" letter of credit. The "irrevocable" letter of credit contains a definite engagement on the part of the issuing bank to honor drafts drawn by the beneficiary in accordance with the terms and conditions specified in the letter. This engagement may not be cancelled by the issuing bank prior to the expiration date without the consent of the beneficiary. The "irrevocable" letter of credit may be strengthened further by having the notifying bank in the same country as the exporter add its unqualified assurance that it will pay or accept the bills drawn by him even if the foreign bank should refuse to honor them. It is then called a "confirmed" export letter of credit. Expressing, therefore, both the definite undertaking of the issuer and also of the notifier, it is actually an "irrevocable-confirmed" letter of credit. Where the notifying bank does not add its guaranty, the credit is described as "unconfirmed," since the advising bank maintains that it is merely transmitting the information of the credit to the beneficiary without incurring liability for its continuance. Thus three classes of letters of credit may exist: (1) irrevocable by the issuer and confirmed by the adviser; (2) irrevocable by the issuer but unconfirmed by the adviser; (3) revocable by the issuer and also unconfirmed by the adviser.[1]

Drafts under commercial letters of credit are usually drawn payable "at sight" or at 30, 60, or 90 days or some other period "after sight." "After sight" means after the day the drafts have been presented to the drawee for acceptance. Sight drafts, known also as "demand" drafts, must theoretically be presented by the corresponding banker at the drawee's address immediately upon receipt and must then and there be paid.

Credits in foreign trade are in the great majority of instances based upon the acceptances of time drafts. When the draft has been accepted it becomes the equivalent of a promissory note, but has the additional characteristic of containing on its face

[1] *Federal Reserve Bulletin*, February 1921.

evidence of an undisputed commercial transaction. With the delivery of the bills of lading, upon the acceptance of a time draft, the extension of actual credit begins.

6. Drafts Drawn Directly on the Importer.—The disadvantages of drafts drawn directly on the importer are summarized in the advantages possessed by drafts drawn under letters of credit. Obviously, if the exporter is willing to have his bank receive his bills for collection instead of discounting them at once and advancing him the proceeds, it will ordinarily be of less importance whether the bills are drawn on a bank or a merchant. In case the foreign merchant has an international reputation, his acceptances will find a ready market and the exporter who has drawn on him should experience no difficulty in getting the drafts discounted.

Sometimes in foreign trade when the exporter is following the plan of drawing drafts directly on the importer, a credit document known as an "authority to purchase" is issued by a bank at the importer's request and expense for the benefit of the exporter. The purpose of this document is to give the exporter assurance that he will be able to sell his drafts to his local bank for cash at the time of shipment of the goods. The bank in the exporter's country acting as agent for the importer's bank will buy the exporter's drafts and will then forward them to the bank which issued the authority to purchase, at the same time charging the latter's account.

7. The Drawing of Drafts.—In the drawing of international bills of exchange either the debtor or the creditor may take the initiative in effecting settlement. The debtor may purchase a bank draft and send it to the creditor, or the creditor may draw a draft upon the debtor, the debtor's bank, or the latter's correspondent.

Where the debtor takes the initiative he buys from his local

bank a draft on its foreign correspondent in the country to which the remittance is to be made. The debtor then sends this draft to the creditor, who cashes it or has it discounted at his own bank. The creditor's bank is willing to cash or discount the draft because it is the obligation of a bank payable at a central point where the creditor's bank also keeps an account. This method of settlement is not customary in regular commercial transactions and is restricted mostly to small purchases abroad by private individuals who are buying books or periodicals, etc.

If the creditor takes the initiative, he draws a draft either on the debtor, the debtor's bank, or the latter's correspondent. Collection of such a draft may be made by the creditor through the agency of his local bank, which will send it to a foreign correspondent for payment. When the creditor takes the initiative, drafts are drawn for the most part on banks instead of directly on the debtor. Such drafts are drawn under what are known as "commercial letters of credit," which are issued by the debtor's bank or the latter's correspondent, authorizing the creditor to draw bills of exchange upon it under certain stipulated conditions. Generally speaking, merchants' drafts upon banks command a better price in the market than drafts drawn directly upon foreign importers, principally for the reason that the drawee bank is usually better known than the foreign importer.

8. The Documentary Instructions.—Foreign bills of exchange, just as in the case of domestic bills, may be either "clean" or "documentary." A clean bill has no shipping papers or other bills attached to it to act as collateral security. Until accepted a clean bill is single-name paper. After acceptance it becomes double-name paper.

A documentary bill is always secured by the papers which carry title to the merchandise, the sale of which the bill represents. The bill of lading, the insurance certificate, consular invoice, and commercial invoice may be accompanied by a hypoth-

ecation certificate, specifically acknowledging the goods covered by the documents for the protection of the banker who discounts the bill. The hypothecation certificate may be an individual statement covering only the one shipment, or it may be a blanket certificate covering all current transactions between the exporter and the banker. The importer, who is the drawee of a documentary bill, has the right in any event to receive the attached bill of lading and other shipping documents at the time when he makes payment. However, he may be treated more liberally. Shipping documents may be handed to him for his mere acceptance of the draft. The disposition of these collateral documents is determined by the so-called documentary instructions. These instructions may be:

1. Documents for payment (D.P.)
2. Documents for acceptance (D.A.)
3. Documents for delivery (D.D.)

Of the three types of instructions, "documents for payment" give to the holder the greatest security because he retains possession of the collateral until payment has been made by the foreign importer. These are the usual instructions when a draft is drawn on a merchant. When the drawee is a bank, the terms are never "documents for payment" but rather "documents for acceptance" or "documents for delivery."

A draft with a bill of lading attached with the instructions "documents for acceptance" is called in brief a "documentary acceptance bill," whereas if the instructions are "documents for payment" it is called a "documentary payment bill." When the drawee is a mercantile house of high standing the instructions accompanying the draft may be "documents for acceptance." In the case of American cotton exports, documentary acceptance bills were drawn in great numbers before the war upon English spinners. Drafts drawn with the instructions "documents for delivery" are exceptional. Instructions of this kind confer

authority upon the agent of the exporter to surrender the bill of lading and other shipping documents even before the acceptance takes place.

The documentary instructions are important matters for the exporter and the foreign importer, and also for negotiating bankers. Although the character of the instructions depends to a large extent upon the usages of the trade and the arrangement between the merchants, misunderstandings and disputes are frequently connected with this matter. If the drawer offers a bill for sale to a banker and the latter instructs that the terms be "documents for payment," it is necessary for the drawer to make arrangements with the foreign importers to permit him to accompany the bill with these instructions.

Frequently, especially in the case of sterling exchange, time bills are drawn with the instructions "documents for payment." In such transactions the importer who pays the draft is entitled to a rebate or discount. In England it is the practice for the importer to make payment under what is known as the "retirement rate of discount," also called "rebate rate of interest." This means that the importer when taking up his bill will be allowed a discount of 1/2 per cent above the advertised rate of interest for short deposits allowed by the leading London joint-stock banks, which is ordinarily 1 per cent below the Bank of England's official minimum discount rate. In the United States, where documentary payment bills have been rare, there has been developed no standard practice in this matter; the rate is left to private adjustment between the importer and the bank holding the bill.

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CHAPTER XXIX

TYPICAL FOREIGN EXCHANGE TRANSACTIONS

1. Financing an Export Shipment by Means of Dollar Acceptances.—A Brazilian importer in Rio de Janeiro has placed an order with the Boston Leather Company for a shipment of patent leather amounting to $75,000 and has arranged with his local bank to finance the transaction on 90 days' credit. The Rio de Janeiro bank issues a commercial letter of credit on its banking correspondent in Boston, the Hubville National Bank, requesting the latter to accept 90-day sight drafts drawn by the Boston Leather Company under certain stipulated conditions, but not exceeding in total amount the sum of $75,000.

When the Hubville National Bank has received these instructions, which would ordinarily be in the form of a cable, it notifies the Boston Leather Company of the opening of the credit and states the terms and conditions. The Boston Leather Company now ships the goods and obtains from the steamship company ocean bills of lading. In accordance with the terms of the letter of credit the local firm also arranges for marine insurance on the cargo and secures from the underwriters necessary insurance coverage.

Having taken care of all the shipping details the Boston Leather Company draws on the Hubville National Bank a 90-day sight draft for the amount of the shipment and attaches to it the shipping documents stipulated in the letter of credit, including the original commercial invoice, ocean bills of lading, consular invoices, and insurance certificates. If everything is in order the Hubville National Bank "accepts" the draft upon presentation. The Boston Leather Company may hold the acceptance until maturity and receive the full face of the draft, but in order

to obtain funds immediately it chooses to request the local bank to discount the draft. If the draft was drawn for exactly $75,000 and the discount rate on this class of bills was 6 per cent, the proceeds credited to the Boston Leather Company would be $73,875. The following calculation is explanatory:

Amount of 90-day draft	$75,000
Deduct discount, 90 days' interest at 6%	1,125
Proceeds	$73,875

The documents are immediately forwarded by the Hubville National Bank to the Rio de Janeiro bank, which will be advised that a draft for the amount of the invoice has been accepted for its account against the credit issued. Upon the arrival at Rio de Janeiro the documents will be turned over to the Brazilian importer in accordance with the bank's customary arrangements, or as previously agreed between the bank and its customer. The Brazilian importer will then surrender the bill of lading to the steamship company, obtain the merchandise, and from the proceeds of its sale get funds to pay his bank.

At the maturity of the draft in New York the Rio de Janeiro bank will be required to deposit sufficient funds with the Hubville National Bank to enable the latter to meet its "acceptance" and obtain the customary or previously agreed upon acceptance commission.

2. Sterling Draft Sold for Future Delivery by an American Exporter.—In May a Milwaukee manufacturer accepts an order from an English concern for some special lathes amounting to £10,000 sterling for shipment to Manchester on or before the following October 20. Fearing that a depreciation in the sterling exchange rates in October might seriously diminish or wipe out his profits, the Milwaukee manufacturer arranges with his local bankers for sale to them for future delivery in October, drafts on the English concern's bank to the amount of £10,000

at the rate of $4.22 per pound. At the rate of $4.22 per pound the Milwaukee manufacturer expects to be able to realize his estimated profit from the sale of lathes. With the exchange thus definitely fixed he has protected himself from any loss that might result from sterling exchange falling in October below $4.22. To be sure, he has also eliminated the possibility of any speculative profit due to a rise in sterling rates.

In October when the lathes are ready for shipment the American exporter draws a draft on the English concern's bank and delivers it to the Milwaukee bankers to whom he sold the October exchange at $4.22 per pound. Whether the sterling exchange rate at that time is $4 or $4.50 does not matter because he will receive for his £10,000, $42,200, on which he figured when he sold the future exchange.

When the Milwaukee bankers bought the exchange for future delivery they could have protected themselves if they wished by hedging, either by selling their own long bills to fall due in London in October, or by selling in the local market sterling demand drafts for October delivery to American importers expecting to remit funds at that time. Under either of these two plans the obligation of the Milwaukee bankers will be the same. The latter alternative, however, involves no immediate money transaction because the importers will not be required to make payment to the bank until the sterling drafts are delivered to them in October.

3. Cotton Shipped on Consignment Financed by Dollar Acceptances.—Johnson Brothers, cotton-buyers of Tulsa, Oklahoma, have made arrangements to ship 400 bales of cotton costing $100,000 on consignment to a broker in Paris for sale after arrival. In order to protect themselves from a possible loss on account of a drop in prices, Johnson Brothers immediately hedge by selling through their brokers futures at the New York Cotton Exchange. The Prosperity Trust Company of New York is then

requested to finance the shipment, which is to be sent by railroad from Tulsa to New York and from there by steamer to Paris.

Having agreed to finance the transaction by means of a bank acceptance, the Prosperity Trust Company authorizes Johnson Brothers to draw upon it at 60 days' sight for 80 per cent of the purchase price of the cotton, that is $80,000, with the understanding that the railroad bills of lading covering the shipment are to be attached to the draft.

After making the shipment at Tulsa, Johnson Brothers draw on the Prosperity Trust Company a 60-day sight bill and, having attached to it the railroad bills of lading, place it in the mail. Four or five days later the New York bank accepts the draft and following the instructions of the drawer sells it in the open market and credits the account of Johnson Brothers for the proceeds. Supposing that the discount rate for this class of bills is 6 1/2 per cent, the proceeds placed to the credit of Johnson Brothers would be $79,133.33:

Amount of 60-day sight draft	$80,000.00
Deduct discount, 60 days' interest at 6 1/2%	866.67
Proceeds	$79,133.33

The bank retains the railroad bills of lading and for additional security requires Johnson Brothers to sign an "acceptance agreement" pledging the 400 bales of cotton as collateral and promising to provide the bank with sufficient funds to meet the acceptance at maturity.

When the cotton arrives in New York the Prosperity Trust Company, already having arranged for cargo space, makes shipment to Paris and obtains the necessary ocean steamer bills of lading. As previously arranged between the bank and its customer, insurance on the cotton while in transit to Paris is to be provided for by Johnson Brothers and the policies are to be sent to the Prosperity Trust Company. These policies together with the ocean steamer bills of lading will be forwarded by the bank

to its French correspondent. Instructions will be sent at the same time to the effect that on arrival the cotton is to be stored in a warehouse pending further advice.

Johnson Brothers' French broker is notified of the arrival of cotton by the Paris bank and he immediately takes steps to dispose of the consignment in his local market. When the sale has been completed the Paris bank, acting upon instructions from its New York correspondent, will deliver the cotton to the buyer against payment in francs for the amount of the sale or against a written promise to pay within a specified number of days.

On settlement of the transaction by the Paris cotton-buyer, the Prosperity Trust Company will be notified by its French correspondent that an amount specified has been collected and has been placed to the credit of the New York bank. The Prosperity Trust Company will immediately convert the Paris credit into dollars at the market rate for cable transfers on Paris. The proceeds of the sum converted into dollars will be applied to payment of Johnson Brothers' draft of $80,000 and the balance, after deducting the necessary commission charges, is placed to their credit.

Not infrequently it happens that the American bank receives funds from abroad before the maturity of its acceptances. In such cases the banking practice is to allow the customer a rebate of interest until the maturity of the draft.

4. Financing an Importation of Gutta-Percha from Singapore with Sterling Exchange.—Lincoln Brothers of Boston have arranged with the Hubville National Bank to have a 90 days' credit opened with the Middlesex Bank, Ltd., of London, in favor of the Oriental Export Company of Singapore against shipments of gutta-percha to Boston. After receiving the Boston bank's letter of credit authorizing drafts on the Middlesex Bank, Ltd., under certain stipulated conditions, the Oriental Export Company, already having secured cargo space, makes shipment. At

the same time it draws on the London bank a 90-day sight bill for £50,000 and attaches to it:

1. Ocean steamer bill of lading
2. Consular invoice
3. Marine insurance policies
4. Commercial invoice

The draft with documents attached will be sold by the Oriental Export Company to its local bank in Singapore at the market rate in the currency of the Straits Settlements (Straits dollars) for 90-day sight bills on London. Unless for some reason the terms of the credit have not been fulfilled and the draft is not accepted in London, the transaction is concluded so far as the Singapore exporters are concerned. The Singapore bank will now send the original shipping documents direct to the Boston bank so that no delay will be incurred by the American importers in obtaining the goods after arrival, and will forward the draft with duplicate shipping documents to its correspondent in London, who will present the bill to the Middlesex Bank, Ltd., for acceptance. If this bank is satisfied that all the terms of the letter of credit have been properly observed, it will accept the draft, retain the documents, but return the draft itself to the Singapore bank's correspondent. The latter will either hold the draft until maturity 93 days hence (90 days plus 3 days of grace) or sell it in the discount market, depending upon the instructions from Singapore. With the London discount rate on 90-day sight bills at 6 per cent and stamp charges at 1/20 per cent, the proceeds placed to the credit of the Singapore bank in London in case instructions call for the immediate sale of the bill, would be £49,210 12*s*. 4*d*. This is arrived at as follows:

1. Amount of 90-day sight draft	£50,000
2. Deduct 93 days' discount at 6%	764. 7.8
3. Deduct stamp charges of 1/20%	25. 0.0
4. Proceeds	£49,210.12.4

The duplicate shipping document will be forwarded immediately by the Middlesex Bank, Ltd., to the Boston bank in order to prevent any inconvenience that might be occasioned by the loss or delay in transit of the original documents. The Boston bank will also be notified at the same time by its London correspondent concerning the acceptance of the draft and will be expected to provide in London at its maturity £50,000 for cover.

On the arrival of the gutta-percha in this country Lincoln Brothers will wish to obtain possession of it for manufacturing purposes, but since their bank holds the documents the cargo cannot be secured from the steamship company until the bill of lading has been surrendered. The Boston bank will want to retain some control over the goods and therefore let us assume the request of their customer to sign a trust receipt in return for the bill of lading.

Although the form and terms of a trust receipt vary, in general this document specifies that the title to the goods remains with the bank and that they are being held in trust by the customer. Furthermore, the customer agrees to turn over to the bank certain proceeds of the sale of the manufactured goods until the debt is settled. Moreover, the bank reserves the right to take possession of the goods at any time, although, should this action be considered necessary on account of such a matter as financial embarrassment of the customer, no little difficulty might be experienced in determining which of the goods were actually covered by the trust receipt.

It is not customary, however, for a bank in this case to insist rigidly upon the terms of its contract unless there is danger that the customer will not be able to meet his obligations. Therefore, as a matter of practice, the Boston bank, while reserving the right to enforce the provisions of the trust receipt, will not expect Lincoln Brothers to make payment until it is necessary to remit to London to cover the draft, which will become due there 93 days from the date of its acceptance by the Middlesex Bank,

Ltd. The Boston bank will give its customer the choice of settling by means of a bankers' check on London, which would have to be purchased for mailing, let us say, 10 days before the maturity of the bill in London, or of remitting by cable some 9 days later. Assuming that Lincoln Brothers choose the former plan and bankers' checks on London are selling at 3.46 3/4, they will send to the Boston bank their personal check for $173,375 (£50,000 times 3.46 3/4) plus a commission of, say, 3/4 per cent, amounting to $1,300.31, or a total of $174,675.31.

5. Remitting Funds to Calcutta for Purchasing Jute.—The Lancaster Bag Company of Brooklyn is planning to instruct its purchasing agent in Calcutta to buy for immediate shipment jute costing approximately 200,000 rupees. Before the war the Brooklyn firm provided its Calcutta agent with funds through purchasing rupees in London for remittance to India. To be more explicit, the Lancaster Bag Company followed the policy of buying sterling cables in the New York market to be used for remittance to a London correspondent who was instructed to buy rupee cables for remittance to Calcutta. At this particular time its procedure is to make direct remittance in rupees from New York to Calcutta. This plan makes it possible for the American importer to avoid the exchange risks due to fluctuations in the rates for the pound sterling. In other words, indirect remittance through London brought into the transaction an additional factor of instability, namely, the changing sterling-rupee rate, and made it impossible to determine at the time the amount of funds necessary to be forwarded to London in order to purchase the required amount of rupees.

When the Lancaster Bag Company has decided to make remittance to its agent in India, it will arrange through its New York bank to have the necessary number of rupees forwarded to Calcutta. Upon settlement of the transaction with the local

bank, the Lancaster Bag Company will be given a receipt with a statement that 200,000 rupees are to be telegraphed immediately to the Calcutta agent of the Brooklyn firm.

If at this particular time the telegraphic transfer rate between London and Calcutta is 2*s*. 4*d*. and between New York and London $3.60, the Brooklyn concern should have bought the rupees at $.42. The following computation is self-explanatory:

1. £1 = 20*s*. = 240*d*.
2. Cost of 1 rupee in London 2*s*. 4*d*. = 28*d*., or £$\frac{28}{240}$
3. Cost of £1 or 240*d*. in New York = $3.60
4. Therefore, $\frac{28}{240} \times \$3.60 = \$.42$, cost of 1 rupee in New York

PROOF:

1. Cost of Rs. 200,000 at $.42 = $84,000
2. If indirect remittance were made through London, $84,000 at $3.60 per pound would provide £23,333 1/3 in London.
3. £23,333 1/3 at $\frac{28}{240}$ per rupee would provide Rs. 200,000 in Calcutta.

6. Finance Bills.—Finance bills are foreign drafts drawn for the purpose of making available the funds obtained in connection with a financial transaction, such as an issue of stocks or bonds; or a reorganization, a readjustment, or an underwriting. The term is also commonly applied to a long bill drawn by a banker in one country on a banker in another, generally against balances or securities pledged for the latter's account.[1] The purpose of a finance bill of this latter class may be: (1) to anticipate a fall in foreign exchange rates, (2) to take advantage of higher interest rates in one country than in another, and (3) to raise funds regardless of the conditions of interest or exchanges.

For instance, under normal conditions large exports of grain

[1] Not all long bills drawn by bankers are finance bills. Often bankers draw long bills in connection with the purchases of commercial and other forms of exchange more or less as a part of the regular daily routine.

and cotton in the autumn cause the rates on sterling exchange to drop from previous higher levels in the summer months. About the middle of August a New York banker wishing to take advantage of an expected drop in exchange rates arranges with his London correspondent for a 60 days' credit of £50,000 by pledging securities for the latter's account at an acceptable New York trust company, although not infrequently in such cases a credit is extended without any collateral requirements.

The New York banker immediately proceeds to draw a 60-day sight bill on London. He may realize on this bill at once by selling it in New York at the market rate for 60-day bills, or he may send it to London[2] to be discounted and sell his own demand drafts against the proceeds of the credit thus obtained. If he follows the second plan, the New York banker will not be required to wait until he has been informed that the bill has been accepted and discounted in London before selling the demand drafts. It is quite possible for the same steamer to carry the 60-day bill and the demand drafts. Of course, the proceeds cannot be foretold to the exact amount, but this is not vital, as the demand drafts would probably not be drawn for the exact amount of the proceeds. Any balance would be debited or credited to the New York bank's account in London.

Let us assume that the New York banker chooses the second plan and that the pertinent facts are:

1. August 15 the rate for bankers' checks on London.....	$4.88
2. London arrival discount rate on 60-day sight bills.....	4%
3. English stamp charges on 60-day sight bills.....	1/20%
4. London banker's commission.....	1/8 %
5. New York banker employs funds for 63 days at an average rate of.....	6%
6. Ten day before maturity of the London draft the New York banker remits with a demand draft purchased at	$4.84

[2] The London bank will quote a discount rate "to arrive," that is in advance, and the New York banker will thus know the exact amount of the demand exchange he can market.

COMPUTATION:

1. Amount of 60-day sight bill	£50,000
2. Deduct London discount, 63 days' interest at 4%	345. 4. 1
3. Deduct English stamp charges 1/20%	25. 0. 0
4. Proceeds in London	£49,629.15.11
5. Sells demand draft in New York at	$4.88
6. Proceeds of demand draft £49,629.15.11 at $4.88	$242,193.40
7. New York banker employs these funds for 63 days at an average interest rate of 6% earning	2,543.03
8. Total proceeds and interest	$244,736.43
9. At end of 60 days New York banker buys a sterling demand draft for £50,062.10.0 (50,000 plus 1/8% commission) for remittance to London at $4.84 costing	242,302.50
10. New York banker's profit (8 minus 9)	$2,433.93

It is evident that if the New York banker had been able to obtain the necessary cover for the original draft on his London correspondent at less than $4.84, he would have made an additional profit, and that if the rate were much above $4.84, he would have incurred a loss. This brings into the transaction an element of risk which the New York banker may or may not wish to take. In case he wishes to avoid the risk he may hedge through buying exchange for future delivery instead of waiting until the time of remittance to make the purchase.

In the illustration just given, whether the New York banker would choose to sell the 60-day sight bill outright in the New York market or follow the plan described would depend upon the quotations for demand and 60-day bills. If the rate for 60-day bills were more than $4.843868 it would be more profitable to dispose of his London credit by way of a 60-day bill. The following computation is self-explanatory:

1. Amount of 60-day bill	£50,000
2. Proceeds in New York from sale of bill at $4.843868	$242,193.40
3. Proceeds of demand draft in New York at $4.88, (line 6 in computation above)	$242,193.40

It will be observed that neither the New York banker nor his London correspondent were required to advance any money. The London correspondent did not loan any money but merely accepted the draft and was provided with the necessary funds to meet it at maturity. The actual funds were supplied by the London discount market which in discounting the bill was protected by the primary liability of the drawee bank and the secondary liability of the drawer. This very ready means of raising funds might seem to be open to serious objection because of the possibility of abuse, but as a matter of fact any such danger is carefully guarded against. It is the policy of the London discount market to keep informed as to the financial condition of both the drawer and acceptor. Higher discount rates and, if necessary, refusal to take the paper prove the most effective checks that can be devised by the discount market against any attempt to issue finance bills beyond reasonable limits.

Finance bills perform two important economic functions. In transferring loanable funds from one market to another they tend to equalize interest rates in the different financial centers. In anticipating a drop in foreign exchange prices they tend to increase the supply of bills when prices are high and increase the demand for bills when prices are low and thus cause exchange rates to be more nearly uniform throughout the year.

Since the war the lack of stability in the foreign exchange markets, together with higher interest rates abroad, have caused a marked decrease in the drawing of finance bills.

7. Arbitrage Transactions.—Arbitrage in foreign exchange may be described in simple language as the buying of drafts in one market at a low price and selling them in another market at a high price. Essentially, the operation is very similar to what happens when traders buy grain, cotton, or other commodities in one city for resale at a profit in another city.

For instance, since sterling drafts are sold in all the money

markets of the world it might be expected that there would be one rate between dollars and pounds in New York and another in San Francisco; or that the rate between dollars and pounds would differ as to whether the exchange were made directly on London or indirectly through the medium of French francs, Swiss francs, Italian lire, or Japanese yen. It is the purpose of the following illustration to explain how the forces of competition tend to establish a parity in price quotations in the exchange markets throughout the world.

Let us assume that at a certain time the cable rates between New York, London, and Paris are as follows:

1. New York rate on London.....	$3.25
2. " " " Paris.....	6.50 cents
3. London " " "	51 francs

A foreign exchange trader in New York remits £10,000 by cable to his London correspondent with instructions that these funds be used for purchasing francs to be forwarded to a Paris correspondent. At $3.25 per pound, £10,000 would cost $32,500 and with this sum of English money the London correspondent would buy cables on Paris at the rate of 51 francs to the pound. £10,000 would, therefore, establish in Paris a credit of 510,000 francs in favor of the New York foreign exchange trader. The latter would then be in a position to sell New York exchange on Paris at the rate of 6.50 cents per franc and by selling 510,000 francs he would receive $33,150. But since he started with only $32,500 this rapid trading from New York to London, to Paris and back to New York again has yielded a profit of $650 less brokerage commissions and incidental expenses.

In the illustration just given francs are cheaper in London than in New York. With the foreign exchange traders all over the world continually on the alert for such opportunities for profit there would be stimulated immediate buying of francs in London for sale in New York. These trading operations would

tend to establish very quickly a parity in the foreign exchange quotations in New York, London, and Paris, that is, in this particular instance bring about rates that would offer no opportunity to make a profit through the triangular transaction of buying francs in London, remitting them to Paris for credit, and selling drafts in New York against this credit. It is not difficult to understand why this condition could be created as a result of a change in any one, two, or each of the three rates. For instance, if we assume the New York rate on London to continue at $3.25 and the New York rate on Paris to remain at 6.50 cents, the London parity rate on Paris would be 50 francs per pound (3.25 ÷ .065). Similarly, if we assume the London rate on Paris and the New York rate on Paris to remain unchanged, the New York parity rate on London would be $3.315 (51 × .065). Finally, if we assume the London rate on Paris and the New York rate on London to remain unchanged, the New York parity rate on Paris would be $.06176 (3.25 ÷ 51). As a practical matter it is more reasonable to expect that a parity would be established as a result of interactions and changes in each of the markets rather than of a rise or fall of rates in only one market. The final effect would be the same in any event.

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CHAPTER XXX

THE NEW YORK MONEY MARKET

1. **Flow of Money.**—Just as grain flows from the farms and the country elevators into the primary markets, such as Chicago, Duluth, and Kansas City, for subsequent distribution, so large quantities of money and credit instruments find their way to New York, the great money market of the United States. A money market is in reality principally a credit market. When interest rates are high it is commonly stated that "money is scarce," but strictly speaking credit has become difficult; the volume of money has probably remained substantially unchanged. Although the price of grain will usually vary slightly in different markets of the country, the spread cannot for any length of time be greater than an amount representing the transportation, insurance and interest charges, and a small margin of profit, because when it exceeds this amount traders will be induced to buy in the cheaper and sell in the dearer place, thus correcting the situation. Interest, or the price for the use of money or credit, is subject to much the same influences and its rates tend to move in the same direction whether it be New York, Chicago, or Seattle. However, because money is loaned in the various markets under different conditions of risk and because its flow from one place to another must first overcome varying degrees of inertia, it is not surprising that the level of interest rates should be slightly higher at one point than at another.

Wall Street, the financial center of New York, is intimately connected with the monetary reservoirs of other parts of the country, and in fact with those of the whole world. High interest rates open the conduits through which flow supplies of yellow metal from the Klondike and the Transvaal, domestic funds from

interior points, and foreign money from London, Paris, and Berlin. Similarly, lower interest rates tend to check and in many cases to reverse the flow of funds, thus bringing about a more even distribution of money in the world's financial centers. In studying the conditions affecting the money rates in the United States it is important, therefore, to examine the forces that are operative in the New York money market.

The rate of interest which must be paid for borrowed money depends upon the supply and the demand for funds. As in the case of practically all commodities bought and sold in a market, anticipated future demand and supply as well as present demand and supply are factors. This is true of commodities, as is seen in the variation of price for immediate delivery and price for future delivery. The price of cotton may be high for spot delivery and low for delivery in 3 months, if there be an expectation that future demand will diminish or that a large new crop is forthcoming. So it is with the price or interest of money. The money market is organized to meet these conditions and needs. There is consequently a demand or call money market and a time money market. As a rule there is a close relationship between the two, but at times there may be a marked difference.

2. New York Bank Statement.—In the New York money market certain evidence in regard to the supply of loanable money is furnished each week in the published statement of bank and trust company conditions summarized by the New York Clearing House. From these it is possible to determine: (1) the amount of loans, discounts, and investments; (2) cash in vault; (3) reserve with legal depositories; (4) deposits, both demand and time; and (5) the surplus reserve, that is, the reserve in excess of legal requirements. This statement is published on Saturday. As not all of the banks are members of the federal reserve system, and as state banks which are not members are not subject to the same reserve requirements, the weekly statement is

in a composite form showing: (1) condition of member banks and trust companies, and (2) condition of non-member institutions. Knowing the reserve requirements for each of the two classes, it is possible to calculate the reserve position and surplus funds of the two classes combined.

A further distinction is made between "actual" figures and "average" figures in the New York Clearing House statement. Actual figures are those for the close of business on Friday; average figures are obtained by taking the average of the figures for each day of the week. In normal weekly periods the average figures are the better index of banking conditions, as they take into account all of the operations of the week. If, however, there is a continuous movement in process, as in the piling-up of funds, or steady withdrawal of money, the actual figures, given for the last day of the period, are an aid in disclosing the extent of the movement.

3. New York Money Rates.—The above explanation may be illustrated by the table on page 412 showing, for a series of weeks in 1921, the condition of New York banks' current rates on call money and commercial paper, and the discount rate of the New York Federal Reserve Bank.

4. Reserve in the Bank Statement.—Before the establishment of the federal reserve system, and more particularly before the transfer of all reserves of member banks to a federal reserve bank, the amount of the surplus reserve of banks was generally regarded as an index of the bank's ability to make additional loans and of the probable trend of rates of interest on money. This relationship, however, is no longer so evident. Under the new law a member bank establishes its reserve, not only by transferring cash to the federal reserve banks but by borrowing from the federal reserve bank, either by loans on acceptable collateral or by rediscounts of commercial paper. The potential reserve is no

New York Banks. Actual Figures* for End of Week, September–October 1921

(In millions, except last four columns)

Week Ending	Loans, Discounts, Investments, etc.	Net Demand Deposits	Net Time Deposits	Required Reserve	Cash in Vaults	Reserve in Legal Depositories	Total Reserve	Surplus Reserve Actual	Surplus Reserve Average	New York Federal Reserve Bank Reserve Ratio (Per Cent)	Call Money† Rate for Week Ending on Date in Column 1 (Per Cent)	Time Money† Commercial Paper (Per Cent)	Discount Rate of N. Y. Federal Reserve Bank (Per Cent)
Sept. 3	$4,337.7	$3,627.3	$211.0	$479.8	$73.1	$471.4	$469.4	— $.4	$7.8	75.5	4 1/2–5 1/2	6 –6 1/4	5 1/2
" 10	4,329.3	3,635.0	214.5	480.9	75.5	488.4	497.3	16.4	7.7	72.9	5 –5 1/2	6 –6 1/4	5 1/2
" 17	4,406.5	3,688.0	215.2	487.8	77.9	533.7	542.4	54.6	20.1	75.7	4 1/2–5 1/2	6 –6 1/4	5 1/2
" 24	4,411.8	3,619.8	217.3	479.1	78.8	502.9	511.7	32.7	8.6	84.1	4 1/2–5 1/2	5 3/4–6 1/4	5
Oct. 1	4,466.8	3,664.6	217.9	485.0	75.5	465.2	474.1	— 10.9	11.2	82.4	5 –6	5 3/4–6	5
" 8	4,469.5	3,641.7	219.1	482.0	82.1	501.1	510.0	28.0	8.0	80.0	4 1/2–5 1/2	5 1/2–5 3/4	5
" 15	4,474.2	3,724.9	220.7	492.8	82.2	523.1	531.9	39.1	15.2	77.0	5 –6	5 1/2–5 3/4	5
" 22	4,401.1	3,801.9	226.8	503.1	78.5	491.9	500.6	— 2.5‡	20.0	83.0	4 –5 1/2	5 1/2–5 3/4	5
" 29	4,369.2	3,801.7	224.1	503.0	77.4	510.5	519.4	16.4	6.9	82.3	5 –6	5 1/2–5 3/4	5

* Average figures for the surplus reserve are also given.
† Rates show weekly range.
‡ Deficits were thus shown in 3 of the 9 weeks.

longer measured by the cash of member banks, but by the character of the assets available for receiving credits at the federal reserve bank, and also by the ability of the federal reserve bank to grant such credits. From the published statements of the clearing house banks, it is impossible to determine the amount of assets which the member banks can pledge with the federal reserve bank and thus convert into a reserve. The amount of "cash in vault," which might be transferred by a member bank to the federal reserve bank, though precisely stated, is small and may be disregarded as a potential influence in providing loaning facilities. The member bank may, however, by rediscounting at the federal reserve bank suddenly increase its reserve by millions of dollars, and for this reason the fluctuations in the surplus reserve may be due simply to bookkeeping operations between the member bank and the federal reserve bank. As a result the weekly statement of the New York Clearing House members, taken by itself, without comparison with other statements, has lost much of its significance.

Not only must the member banks have acceptable assets to pledge with the federal reserve bank in order to increase its reserve, but the federal reserve bank must be in a position to grant the credit. This in turn depends upon the condition of the federal reserve bank. It, too, must maintain a reserve. The weekly statement of the New York Federal Reserve Bank must therefore be examined as well as that of the New York Clearing House members. According to law each of the twelve reserve banks is required to keep on hand a lawful money reserve of 35 per cent against deposits of member banks and 40 per cent against its own notes. Obviously, when the actual reserve closely approximates the lawful reserve the ability of the reserve banks to accommodate their members has approached its limit and the situation is apt to be acute. If, however, the reserve ratio is high or is on the increase any flurry in the rates of interest should cause no great alarm.

5. Factors Affecting the Money Market.—The condition of New York banks, as reflected in the weekly statements, is determined and modified by a great variety of economic movements. The following may be mentioned as especially significant:

1. The volume of manufacturing, commercial, and mercantile business.
2. The volume of speculation and transactions in the New York Stock Exchange.
3. Flow of funds to and from the interior.
4. Financial transactions with the government, as payment of maturing indebtedness, purchase of government securities, and payment of federal taxes.
5. Import or export of gold.
6. Issue of new securities.
7. Dividend and interest disbursements at the quarterly periods.

The interplay of these movements affects the money market in any locality, but is much more marked in New York City, because financial operations are on so large a scale there. Experts endeavor to analyze the changes as reflected in the bank statements and, in the light of known current commercial and financial transactions, to interpret and predict the probable course of the money market.

6. Course of Money Rates.—As a rule money rates in New York are higher in the last 3 months of the year than in the first 8 or 9 months, due to the seasonal demands for currency created by crop movements. Deposit funds are withdrawn from New York banks by banks in the West and South in order to afford accommodation in the purchase of grain and cotton which is being harvested and marketed. There is consequently a flow to the interior. As funds are withdrawn, money rates tend to stiffen. The following table shows the rates on 60-day time loans by months during the years 1910–1919:

Monthly Range of Rates for 60-Day Time Loans in New York

	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
January	3 3/4–4 3/4	3 –3 3/4	2 –3 1/4	3 1/4–5 1/4	2 1/2–5	2 1/2–3 1/2	2 1/2–2 3/4	2 1/2–4	5 –6	5 –5 1/2
February	3 1/4–3 3/4	2 3/4–3	2 1/2–2 3/4	3 3/4–5	2 1/2–2 3/4	2 1/2–2 3/4	2 1/2–2 3/4	2 1/2–4 1/4	5 1/2–6	5 –5 3/4
March	3 1/4–4	2 1/2–2 3/4	2 3/4–3 1/2	4 3/4–6	2 1/2–3	2 1/2–2 3/4	2 1/2–3	3 1/2–4	6	5 1/2
April	3 3/4–4 1/4	2 1/2–2 3/4	3 –3 3/4	4 –5	2 1/4–3	2 1/2–2 3/4	2 1/2–3	3 1/2–4 1/4	6	5 1/2–6
May	3 1/2–4	2 1/2–2 3/4	2 3/4–3 1/4	3 1/2–4	2 1/4–3	2 1/2–3	2 1/2–3	4 –5	6	5 1/2–6
June	3 1/4–3 3/4	2 1/2–3	3	3 1/2–4 1/4	2 –2 1/2	2 1/4–2 1/2	2 1/2–3 3/4	4 –5 1/2	5 1/2–6	5 1/2–6
July	3 –3 1/2	2 1/2–3	3 –3 1/2	2 3/4–4 1/2	2 1/4–6	2 1/4–2 3/4	3 1/4–4 1/2	4 –4 1/2	5 1/2–6	6
August	2 3/4–3 1/4	2 3/4–3	3 1/2–4	3 1/2–4	6 –8	2 1/2–2 3/4	2 3/4–3	4 –4 1/2	5 3/4–6	5 3/4–6
September	3 1/2–3 3/4	2 3/4–3 1/2	4 3/4–6	4 –4 1/2	6 –8	2 1/4–2 1/2	2 3/4–3 1/4	5 –5 3/4	6	5 3/4–6
October	4 –4 3/4	3 –3 1/2	5 1/4–6	4 –5 1/4	6 –8	2 1/4–2 1/2	3 –3 1/4	5 1/4–5 3/4	6	5 3/4–7
November	4 –5 1/4	3 1/4–3 1/2	5 3/4–6	4 3/4–5	4 1/2–5 1/2	2 1/4–2 3/4	2 3/4–3 1/4	5 1/4–5 1/2	6	6 –7
December	3 1/2–4	3 1/2–4 1/2	5 1/2–6 1/2	4 3/4–5 1/2	3 1/2–4 1/4	2 1/4–2 1/2	4 –4 1/2	5 1/4–5 3/4	5 1/2–6	6 –7

In every year except two, 1911 and 1915, rates were higher in October than in January. The reasons for these exceptions were as follows: "There was no progress, no forward movement."[1] "There was a superabundance of funds all through the year."[2] In 1915 the volume of business was enormous on account of Europe's demands for war commodities. The large import of gold was used by the federal reserve banks to strengthen their reserve position. Moreover, under the Federal Reserve Act, which was beginning to make its influence felt, the reserve requirements of member banks were reduced. This set funds free for loaning and the money market was relieved from the usual strain at this period of the year.

As a further illustration, the rates on call loans, 90-day time loans, and commercial paper, during 1912 are presented:

RATES ON CALL LOANS, TIME LOANS, AND COMMERCIAL PAPER, NEW YORK, 1912

1912	Call Loans (Range)	Time Loans, 90 Days (Range)	Commercial Paper, Double Names, 60 to 90 Days (Range)	Range of Average Surplus Reserve of New York City Clearing House Banks (Thousands)	
				Maximum	Minimum
Jan.	1 3/4–4	2 1/4–3 1/2	3 1/2–4 1/2	$43,871	$20,297
Feb.	1 3/4–2 1/2	2 3/4–3	3 1/2–4	44,057	28,668
March	1 1/2–3	3 –3 3/4	3 1/2–4 1/2	24,379	5,746
April	2 –5	3 1/4–3 3/4	4 –4 1/2	18,112	14
May	2 1/4–3	3 –3 1/4	3 3/4–4 1/2	22,054	12,697
June	2 –3	3 –3 1/4	3 3/4–4 1/4	27,604	20,343
July	2 –3 1/2	3 1/4–3 3/4	4 –4 3/4	17,017	*213
Aug.	2 –3 1/2	3 3/4–4 3/4	4 1/2–5	20,890	9,302
Sept.	3 –7	5 –6	5 –6	6,385	814
Oct.	3 –7 1/2	5 1/2–6	5 3/4–6	7,107	4,578
Nov.	3 –20	5 3/4–6	5 1/2–6	6,220	*131
Dec.	1 1/2–16	5 1/2–6 1/2	6	7,334	*70

* Deficit, or amount below the reserve requirement.

[1] Financial Review, 1912, p. 12. [2] *Ibid.*, p. 15.

7. Rate Changes Explained.—In explaining these changes, The Financial Review, 1913, comments as follows:

> *January:* Money flowed here in enormous amounts from the interior. This was due not merely to the release of funds used in moving the crops, but to the inactivity of general trade. Rates for time loans reflected the redundancy of funds even more than the call-loan branch.
>
> *April:* Call loan rates advanced to 5 per cent at the beginning of the month incidental to the first of April payments for dividends and interest charges of depositing corporations.
>
> *June:* The undertone in money was somewhat firmer. The gold shipments to France and the large corporation income tax caused a large reduction in the money holdings and surplus reserves of the clearing-house institutions the last week of the month. (It will be observed that these factors were reflected in higher actual rates in July.)
>
> *July:* Money became dearer all around during July. The U. S. Treasury absorbed large amounts of cash, there were some gold exports and the New York Clearing-house statement for July 6 showed a large deficit. Surplus was restored the next week and the tone temporarily became easier. But this did not last, leaders taking the view that monetary conditions were such as to warrant improved returns for money.
>
> *August:* Money rates stiffened all around. Canadian banks suddenly called outstanding demand loans on a large scale and the last week of August $2,600,000 gold was taken here for shipment to Canada. There was renewed demand by Germany for American loans.
>
> *September:* As a result of the large crops and the expanding activity in trade, an urgent demand sprang up for banking accommodation and a sharp rise in money rates ensued. The demand for funds was increased by the usual preparations for the large interest and dividend disbursements which occur October 1.
>
> *November:* The interior demand for funds was active and there was severe calling of loans, in view of the first of November disbursements. . . . Canadian banks withdrew for home use considerable amounts of their funds held here, besides which there were large requirements in connection with the tax payments in the city. . . . The banks were also expecting a call

of condition by the Comptroller of the Currency, and did not care to deplete their cash reserves in view of such a contingency.

The foregoing analysis relates to a year before the federal reserve system was in operation. As already stated, the returns of banks showing their condition do not now so clearly reveal the trend of the money market, or the forces which affect rates. There is no longer a close relationship between rates and the amount of the surplus reserve of member banks. This may be illustrated by comments taken from financial newspapers and bulletins with reference to the cause of the money market during September and October, 1921. Figures showing the condition of banks and money rates in New York for this period will be found on page 412, and should be consulted in connection with this analysis.

In the *Commercial and Financial Chronicle* for September 3, 1921, it is noted that the local money market for the week had been "largely featureless." At the beginning of the week "the tendency was toward greater ease and lower rates. Call funds dropped to 4½ per cent on the Stock Exchange and to 4 per cent in the outside market. During the latter part of the period a firmer tone was in evidence and 5½ per cent was the prevailing rate." The time money market continued nominal with quotations at 5¾ to 6 per cent.

For the week ending September 10, the "money market was devoid of striking features. . . . So far the local money market has not been disturbed by requirements in the West and South for moving the crops." Evidence appeared to show that the grain movement was 40 days ahead of normal years and that "from now on the demand upon New York for funds with which to move the crops probably will lessen rather than increase." No other special demand was in sight, except federal tax payments on September 15. Member banks wiped out the deficit in "surplus reserve" by borrowings at the federal reserve bank and there was a slight falling off in loans, "indicating continued liquidation."

In the issue of September 17, it is noted that the general trend of the local money market was toward still greater ease. Some call money was loaned at 4½ per cent. In favor of easy conditions, it is noted that the gold reserve of the New York Federal Reserve Bank continued to increase

and that new corporate securities were finding a ready market. New York banks continued to gain currency from the interior. There was a large expansion in loans and deposits. The former was attributed to disbursements on the third instalment of the income taxes, and the latter to payment by the government of Liberty bond interest.

For the week of September 24, though rates had been irregular, on the whole greater ease prevailed. The New York Federal Reserve Bank lowered its discount rate to 5 per cent and its reserve ratio advanced to 84.1 per cent. As to the future: "Prominent bankers at this center do not fail to suggest that there is still a large volume of money tied up in so-called frozen credits, some of which will not be thawed out for some time longer. They offer the further suggestion that in spite of the relatively low rates for money now, it should not be assumed that the banks will loan large sums for speculation in stocks or commodities in the near future."

In the week ending October 1, the rate on call money rose to 6 per cent during one day, but in general there was little change in the money market. The statement of the condition of the New York banks, however, showed the elimination of the surplus reserve and a deficit of $10.9 million. This was due principally to interest and dividend disbursements. Loans were increased $55 million and demand deposits nearly as much. Member banks reduced their borrowings at the federal reserve bank by $37.1 million. "These changes, however, attracted only perfunctory notice as they are regarded as only bookkeeping transactions and almost certain to be readjusted in the course of another week."

In commenting upon credit conditions for the month as a whole, the *Monthly Review* for October 1, published by the Federal Reserve Agent of the New York Reserve Bank, observes:

"The reduction of discount rates of the New York Reserve Bank on September 22 was a reflection of existing credit conditions in this Federal Reserve district. More particularly, it was a reflection of easier conditions in the money market. Evidences of the tendency toward lower rates for money included the sale on September 15 of $698,000,000 of Treasury certificates and notes at rates lower, for corresponding maturities, than at any time since March, 1920. . . . These lower rates of return on investments of complete security and the readiest sale are the best indices at this time of market rates for money."

For the week ending October 8, it is noted in the *Chronicle* that the general trend of the money market is toward greater ease. Call money rates ranged from 4½ to 5½ per cent and mercantile paper rates were a shade easier. As anticipated in the previous week, the deficit in the re-

serve of member banks was extinguished by borrowings at the federal reserve bank. Reference is made to the large issues of new bonds, but notwithstanding this employment of funds "the prevailing opinion appears to be that the money market will be easy for some time to come. . . . As a matter of fact, no one can do much more than venture a guess, because of the many uncertainties in the general situation. If business should improve rapidly, as is forecast by some authorities, there would be a free demand for funds. This, coupled with requirements abroad, might bring about a fairly firm money market."

For the week of October 15, call money rates were slightly firmer. This is attributed to preparation for government transactions and to interest and dividend payments by corporations. "Today the New York Federal Reserve Bank will pay to local depositories $125,000,000 on maturing Treasury certificates of indebtedness, and an additional $17,000,000 for interest on Liberty bonds. On the other hand the government will withdraw from local institutions $117,000,000. During the first half of next week it is assumed that the greater part of these funds will find their way back into regular channels." Notwithstanding the large increase in deposits, the reserve was increased by further borrowings at the reserve bank.

In the week of October 22 the money market was "decidedly easier." The advance in the reserve ratio of the New York Federal Reserve Bank from 77 to 83 per cent "attracted special attention." "Borrowers on time found offerings freer." The combined statement of condition of banks again shows that the surplus reserve figure is regarded as of little significance. Demand deposits were increased $77,000,000 requiring a larger reserve. As the banks decreased their borrowings at the federal reserve bank there was a deficit in the reserves.

A week later (ending October 29) call money rates were higher. The reason for this was not clear. "Little has been published to explain the higher tendency of all money. The withdrawals by the government have not been large," and financing for private corporations was not "particularly striking."

8. The New York Call Money Market.—Occasionally the rates on call money in New York City are very high, 15 or 20 per cent, or even higher. This may create distrust and alarm. Frequently such high rates are not a true index of the trend of the money market, but represent the charges made to belated bor-

rowers from the stock exchange who need funds at once to settle unexpected adverse balances. A call rate of 15 per cent on a given day does not mean that all borrowers on call paid that rate. The rate may have been applied to but a very few and for only a very short time. The high call money rate as a rule applies only for a single day, as the next day the loan is renewed at the renewal rate, which is much lower. Exceptionally high rates are incident to stock-exchange operations which require daily settlements, and do not necessarily reflect the probable rates for time loans or discounts on commercial paper. Because of the widespread public misunderstanding of the significance of call money rates, the Senate in March, 1920, asked the Federal Reserve Board to report on the "cause and justification for usurious rates of interest on collateral call in the financial centers." According to the reply made by the Federal Reserve Board present practice may be summarized as follows:[3]

Collateral call loans, in the general acceptance of the term, are made chiefly in New York City, which is practically the only important call money market in this country. These loans are secured by the pledge of investment securities, i.e., stocks and bonds, generally those which are dealt in on the New York Stock Exchange. The loans are made for the most part to houses which are members of the stock exchange, and the money so borrowed constitutes a portion of the funds employed ordinarily in purchasing and carrying securities for their customers and sometimes for themselves. The bulk of call money is lent on the floor of the New York Stock Exchange at the "money post," where through various brokers loanable funds are offered and bids for funds are received. Most of the business is done between the hours of 12 noon and 2:45 P.M.

9. Sources of Call Money.—The principal supplies of money for collateral call loans are loanable funds of banks and bankers

[3] *Federal Reserve Bulletin*, April 1920, pp. 368–372.

located both in and outside of New York City, including foreign banks and agencies of foreign banks, and similarly the loanable funds of firms, individuals, and corporations seeking temporary investment. In the matter of the supply or attraction of funds to the call money market, there is generally a definite and well-understood obligation on the part of banks to accommodate first their own commercial clients, so that it is only the excess of loanable funds which they may have from time to time that is available for the collateral call money market, or for the purchase of commercial paper in the open market. This excess of loanable funds available for employment in the securities market varies, therefore, according to the commercial requirements of the country.

The idea that when call money rates are high, say, at 25 to 30 per cent, all banks are investing in that manner and receiving abnormal rates is erroneous. In fact one of the reasons for the high call rates is that money is going largely to commercial borrowers, and the brokers for that reason are compelled to bid high for accommodation.

10. Former Place as Secondary Reserve.—Prior to the institution of the federal reserve system, bankers, especially in reserve centers, were accustomed to look upon call loans as their principal secondary reserve, on the theory that inasmuch as those loans were payable on demand, the invested funds could always be promptly obtained on short notice to meet withdrawals of deposits or for other use. Consequently there was available for collateral call loans a supply of funds sufficient for ordinary market requirements and at low rates, although at times the rates rose to high levels as the supply of funds diminished, or the demands increased.

The traditional attitude of banks toward call loans as their chief secondary reserve has been greatly modified by two causes. The first resulted from the closing of the stock exchange at the outbreak of the European war in the summer of 1914, when it

became practically impossible to realize on call loans secured by investment securities, which became, therefore, "frozen loans." This brought about a more or less permanent prejudice against dependence upon call loans as secondary reserves. The second and more important factor was the creation of the federal reserve system.

Under the terms of the Federal Reserve Act provision is made for the rediscount of commercial paper, but the rediscount of loans for the purpose of carrying investment securities, other than United States government obligations, is excluded. Consequently in order to maintain maximum liquidity, with suitable provision for secondary reserves that can be immediately availed of, banks, including foreign agency banks, now invest a greater proportion of their resources in assets that can be realized upon at the federal reserve bank. Another changed factor in the present situation grows out of the fact that the war and post-war conditions have rendered unavailable supplies of money which formerly came from foreign banks.

11. War Regulation of Money Market.—During the latter part of the war, agencies of the government were employed to restrict the issue of new securities for purposes other than those which were deemed essential. Moreover, as the Treasury undertook to sell large amounts of certificates of indebtedness and Liberty bonds bearing low rates of interest, the question arose as to whether the competition of the general investment market might not prejudice the success of the government issues. In these circumstances, with full understanding on the part of the Treasury Department, the officers and members of the New York Stock Exchange undertook to limit transactions which would involve the increased use of money for other purposes, in consideration of which the principal banks of New York City endeavored to provide a stable amount of money for the requirements of the securities market.

After the armistice these restrictions were removed and ordinary market forces reasserted themselves. The issuance of new securities was resumed in unprecedented volume and consumed a vast amount of capital and credit when bank credit was already expanded by the necessity of carrying large amounts of government securities which the investment market was not prepared to absorb.

12. Renewal Rate on Call Loans.—The renewal rate, or the rate at which loans not called for payment bear interest until the following day, is regarded as the real barometer of market conditions, and its fluctuations throughout the longer periods indicate more significantly the relation between the supply and demand of loanable funds.

The renewal rate is fixed about 11:30 A.M. each day by the president of the exchange after consulting with the money-brokers and certain officials, and is based upon the approximate rate for that day and the probable demand for money before the rate is set again. When money is scarce the renewal rate is sometimes set higher than the prevailing interest rates, partly for the purpose of attracting funds. Not infrequently it is found that the renewal rate has been placed too high, for very shortly new loans, which of course do not bear the renewal rate, are made at a lower figure. Interior bankers often complain about being discriminated against because their funds are not loaned by their New York correspondents at the highest rates for the day. Such complaints for the most part are not based on the facts of the case for several reasons. As a general rule the great bulk of the money loaned on call bears the renewal rate from day to day and only a very small proportion gets the high rates quoted. Late in the afternoon where the renewal rate for the day is possibly 6 or 8 per cent, the rate for new loans often goes to 12 or 15 per cent or even higher, largely because the banks' loanable funds for the day have been exhausted and no additional money is forthcoming.

13. Influence of Call Money Rates on Business.—The rates for call money do not determine and have not exerted an important influence on the rates for commercial borrowings. This is to be explained by the universal custom of banks to satisfy first the commercial needs of their customers. Banks feel an obligation to customers but not to those who borrow in the open market on securities. Furthermore, as the resources of the banks mainly come from the commercial customers, their own self-interest compels a preference in favor of their commercial borrowers, since failure to grant reasonable accommodation would induce them to withdraw their deposits and so reduce the ability of the banks to do business.

An attempt to control the rates for call loans by the establishment of an arbitrary limit at a low level would be distinctly hazardous, for the reason that up to the point where the arbitrary rate would limit the supply of new money, speculation and expansion might proceed unchecked and the natural elements of correction or regulation would not obtain. In other words, high rates act as a deterrent to overspeculation and undue expansion of credit. What is more, high call money rates attract funds from interior points, and to fix arbitrarily the rates below their real competitive market level would simply mean a smaller amount of available funds for loans. Again, a supply of money available at a fixed maximum might become exhausted and liquidation might suddenly become forced, because the demands for additional accommodation for the fulfilment of commitments already made could not be met. As an example of the effect of such liquidation upon dealers and merchants in commodities, the case might be cited of a commitment to purchase a round amount of cotton on a certain day. Many of the houses on the cotton exchange are also members of the stock exchange and frequently borrow very largely on the stock exchange to provide funds against settling their transactions in cotton. If, therefore, an important cotton settlement is imminent, and borrowings on

securities could not be availed of, the cotton transaction could not be carried out and a drastic liquidation through sale either of securities or of the cotton might be required to avoid default.

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Gives current analyses and explanations of the money market; also contains editorial paragraphs and descriptions of the principal changes of the week.

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CHAPTER XXXI

MONETARY PROBLEMS

1. Controversies in Regard to Money and Banking.—Prominent among the many questions of economic interest which have aroused during the past century widespread public discussion in the United States, and at times violent partizan agitation, have been those relating to money and banking. In the first half of the last century banking policies occupied the center of the stage; in the latter part of the century the nature of the monetary medium and its volume. Early in the nineteenth century a struggle took place over the renewal of the charter of the First United States Bank. An attack was made on the ground that the bank was an undemocratic political institution, that it centralized the power of the federal government at the expense of state prerogatives and local banks, and that the large holdings of capital by foreign stockholders menaced the independence of the United States.

The Second United States Bank (1816–1836) had a stormy career. At the outset it had to contend with the rivalries of local banks; later in Jackson's administration the question of renewing its charter became a national issue. Again opposition was inspired by the fear of a money monopoly. There were also contests in different states over questions of banking policy. On the one side was the effort in undeveloped communities lacking capital to secure a larger command of credit. Frequently this led to the establishment of weak institutions, the overissue of notes, and reckless speculation. In opposition was the conservative desire to avoid these evils, and this was reinforced by a suspicion of money interests which might through banking institutions impose heavy burdens upon industry and agriculture. The early

development of banking was thus constantly attended by distrust, bitter debate, and frequently by reversals of financial policy.

After the Civil War public discussion was concerned with questions relating to money rather than with banking organization. In particular there was prolonged controversy over the issue of promissory notes or greenbacks by the government, and over the coinage of silver. As the legislation following these contests has left its impress upon our credit system, these topics require explanation.

2. Issue of Government Notes.—The Constitution is silent as to the power of Congress to authorize the issue of bills of credit or government non-interest promissory notes with no specific date of maturity. Experience with such notes, known as "continental currency," during the Revolutionary period had been disastrous, and the convention which framed the Constitution decided to strike out a proposed clause conferring this power. Although the decision was adverse to positive authority, their issue is not specifically prohibited. Twenty-five years later when the government was in need of funds to carry on the war with England, issues of treasury notes were made. These were regarded as emergency notes, in anticipation of revenue, and as soon as the war was over were quickly funded into long-term bonds. Of the five issues made at this time, four bore interest, and none were made legal tender. As nearly all the notes were in large denominations, they were not designed to go into general circulation to become a part of currency.

At later periods Congress resorted to this financial expedient to secure funds when the Treasury was hard pressed, as during the years 1837–1843, occasioned by the panic of 1837; in the war with Mexico (1846); and in the panic of 1857. All of these notes bore interest and none of them were given a legal tender quality.

3. Legal Tender Issues of Civil War.—As a result of the overwhelming financial demands made upon the Treasury during the Civil War, Congress not only authorized the issue of notes but swept aside all the restrictions which had been attached to previous issues. It was argued that the government should not be dependent upon banks or loans; rather it should assert its power and dignity by the issue of its own notes: "To render the government financially more independent, it is necessary to make the United States notes a legal tender." This view prevailed, and Congress, by the act of February 25, 1862, authorized the issue of $150 million non-interest legal tender notes. Similar issues were authorized in July of the same year and in 1863, making in all $450 million. At first these notes could be converted into bonds, but this privilege was quickly rescinded. In 1865, at the close of the war, $433.1 million were outstanding in circulation.

It is difficult to determine how far the issue of the greenbacks contributed to the derangement of prices and depreciation of the currency. Specie payments were suspended early in the war, and gold went to a premium. A considerable part of the government loans was in the form of short-term treasury notes (not legal tender) which circulated to some extent as money, and there was an expansion in local bank note issues. Each of these factors contributed to inflation. In 1862 the value of the paper dollar as measured in gold fell to 76 cents, in 1863 to 62 cents, and in 1864 to 39 cents. At the close of the war it was about 70 cents.

When peace returned it was generally assumed that the greenback issues would be retired, but opposition quickly arose to any contraction of the currency. Some opposed because the redemption of the notes would require additional tax burdens, and others because of the difficulty in securing gold to be used for redemption of the notes. These views were soon supplemented by the demand that the currency should be expanded instead of contracted. "Our currency, as well as everything else, must keep pace with our growth as a nation," declared a member of Congress.

It was urged that contraction would reduce prices and that this would be injurious to business. Debts had been assumed on the basis of high prices, and it would be disastrous to force the debtors to pay in a dearer currency. Influenced by such arguments, only a small amount of contraction was effected—$44,000,000 being retired. In 1868 any further contraction was prohibited by Congress.

4. Constitutionality of Issues.—In the meantime the question of the constitutionality of legal tender notes was raised. In 1869 the Supreme Court decided adversely in a divided opinion, four to three. This decision created great dissatisfaction and a new case was brought before the court in 1871. The membership of the court was changed during the two intervening years by the appointment of two additional justices, and on this occasion the court sustained the constitutionality of the issue. "What we do assert is, that Congress has power to enact that the government's promises to pay money shall be, for the time being, equivalent in value to the representation of value determined by the coinage acts or to multiples thereof." A third decision a few years later justified the exercise of this sovereign power in times of peace as well as during an emergency created by war.

It was not until 1875 that Congress took a decisive step to provide for a restoration of the depreciated currency to its value at par in gold; and resumption was finally achieved in 1879. By the act of 1875, it was intended that the greenback issues should be reduced to $300,000,000, but those who advocated inflation were strong enough in 1878 to enact legislation forbidding any further contraction of greenbacks. At that time there were $346,681,016 of these notes outstanding, and from that date the same amount has been carried as one of the liabilities of the Treasury. Occasionally it has been proposed that the notes be retired, and that the government free itself from any further responsibility for the issue of bills of credit with the legal tender attribute. Time, how-

ever, has confirmed their use, and as they form but a small portion of the currency and enjoy popular confidence, they are universally acceptable and are likely to remain in circulation for an indefinite period.

5. The Adoption of the Bimetallic System in 1792.—The first coinage act of 1792 established the bimetallic system with a mint ratio of 1 to 15 between gold and silver. Within a few years, however, gold was worth more in terms of silver than was recognized by the mint valuation, and consequently there was but little coinage of that metal. In 1834 that deviation was remedied by changing the mint ratio to approximately 1 to 16. This proved satisfactory for a few years, but after the gold discoveries in California and Australia, beginning about the middle of the century, gold fell in value. In other words, silver rose in value and was worth more in the bullion market than at the mint. Silver therefore was not coined.

The stoppage of the coinage of silver dollars did not create any serious inconvenience, for the state banks were able to furnish notes in small denominations, which served the ordinary needs of retail trade and industry. The disappearance of the small silver coins in denominations of less than $1 was, however, a more serious matter, for banks did not issue notes in fractional parts of the dollar. To meet this difficulty, Congress lowered the weight of the subsidiary coins and thus made it unprofitable to melt the coins for sale as bullion. Silver dollars, however, went out of circulation and were unfamiliar to the generation living between 1850 and 1878.

6. Demonetization of Silver in 1873.—In 1873 the coinage laws were revised and in the act as finally passed no reference to the coinage of silver dollars was made. As these coins were not in circulation at the time, the omission did not attract attention. The discovery of new silver mines in Colorado quickly aroused

inquiry, for the owners of the mines found that there was no provision for disposing of their product at the mint. Moreover, the bullion value of silver was falling. Germany had recently changed from a bimetallic to a single gold standard, and to carry this out the German government sold a large amount of the discarded silver and this lowered the price. The mining interests of the West promptly demanded that silver be restored to coinage and be remonetized. This demand was reinforced by other groups of inflationists who complained that the fall in commodity prices, accompanying the readjustment of industry after the Civil War, was occasioning great hardship. Particularly was this true of those who were in debt, as, for example, farmers in the purchase of land. All classes who favored a high level of prices joined together, not only to prevent the contraction of the greenbacks, but also to re-establish the free coinage of silver.

7. Silver Purchase Acts.—The agitation became extremely bitter. The omission of silver dollars from the act of 1873 was declared to be a premeditated plot which was planned by the creditor class, who profited by low prices. The "Crime of 1873" was denounced in heated campaign speeches. Congress went so far, in 1875, as to recognize the silver dollar as legal tender money, but made no provision for its coinage. Three years later silver won a partial victory. The Bland Act authorized the purchase and coinage of a limited amount of silver—at least $2,000,000 and not more than $4,000,000 per month.

The new silver coins were not favored in the East; individuals regarded them as cumbersome, and banks in some cities endeavored to cast discredit upon them by refusing to accept them in settling clearing-house balances. This was futile, for the coins were legal tender. In order to utilize the new coins as currency, Congress authorized the issue of silver certificates upon deposit of silver coins, and this form of representative money largely took the place of the coins in the northeastern section of the country.

The silver party still continued active; in 1890 it won another victory in the Sherman Act, which provided for the purchase of 54,000,000 ounces of silver annually. Instead of immediate coinage, however, the Treasury was authorized to hold the silver bullion and issue treasury notes against this metal security. Only when the treasury notes were presented for redemption was the silver to be coined into dollars. Success was short-lived; there was alarm over the ability of the government to maintain specie payments and the act was repealed in 1893.

The advocates of silver did not accept this defeat. The fall of prices was world-wide and other nations were disturbed by popular discontent due to the unsettlement of values. Efforts were made to secure international bimetallism by common action of the more important commercial nations. While the free silver party welcomed support from any source, it insisted that this country should not wait for the consent of other nations. Rather it should proceed independently. No respect was given to the argument that, if the United States alone authorized the free coinage of silver at a ratio of 1 to 16 when the market ratio was 1 to 30, gold would disappear from circulation and that this country would practically be placed upon a single silver standard. Contracts of indebtedness based upon a standard of gold would be disturbed if settlement could be made in a silver dollar worth only 50 cents in gold, and exchanges with countries which maintained the gold standard would be subject to the continuous fluctuations in the relative value of the two metals. The presidential campaign of 1896 was waged upon this issue; the free silver party was defeated.

Although there was an occasional renewal of interest in silver coinage, the movement had spent its force. There was a turn in the price level. Prices slowly began to rise, and the revival of industry in the closing years of the century destroyed the force of the arguments which had sustained the silver cause for so many years.

8. Demand for Inflation.—In each of the two controversies which have been briefly described, it has been noted that the change in the price level was a powerful influence in provoking agitation. They both arose when the change was downward and the agitation was directed in favor of an expansion or inflation of the currency.

The arguments rested upon the assumption that prices are determined by the volume of money. If there be a larger supply of money, prices will be higher; if smaller, prices will be lower. In each case, however, the agitation was devoted to increasing the supply of a particular kind of money, regardless of the effects which this would have upon the monetary system as a whole. An increase in greenbacks would not necessarily increase the total mass of money, for both theory and experience show that if one form of money be increased in excess of public confidence, the other forms of money, in which there is general confidence and for which there is general acceptability, will tend to disappear from circulation. If greenbacks had been freely issued beyond the ability of the government to redeem them in gold, the monetary standard would no longer be gold, but government promissory notes. The result would be a paper standard.

So, too, in the case of silver. If silver were freely coined and the public lost confidence in the ability of the government to redeem it in gold, gold would disappear from circulation. In each case gold would be valued more than the greenbacks or the silver; it would consequently be valued at a premium. It might remain in the country but it would be held simply as a commodity and its price determined like other commodities, by the current supply and demand. The advocates of greenbacks and of free silver paid little heed to such considerations; they were bent upon the increase of one particular kind of currency, irrespective of its influence upon the total volume.

9. Index Numbers.—Changes in prices are conveniently shown by the use of index numbers. An index number when

applied to prices in its simplest form "is the price of a composite commodity unit, representing approximately the average price of commodities in general."[1] Such a number for a given year by itself has little significance, but when compared with similar units for other years shows the changes which have taken place in the prices of commodities as a whole. Many methods have been decided for computing price index numbers, but the resultant figures do not show great differences. The more common method is to select a given year or short period of years as a base, represented by 100, and calculate the figures for other years in percentages of the base year. For example, suppose that the following prices are given:

Year	Cattle (100 lb.)	Cotton (lb.)	Coal, Anthracite Chestnut (2,240 lb.)	Steel, Structural (lb.)
1913	$8.507	$0.128	$5.313	$0.016
1917	12.560	.261	5.933	.062
1918	17.625	.312	6.693	.033
1919	16.869	.351	8.304	.027
1920	15.381	.410	9.551	.032

If the prices for 1913 be taken as the base for comparison, expressed as 100, and the prices for the succeeding years be computed in terms of percentages, the following table is derived:

Year	Cattle (100 lb.)	Cotton (lb.)	Coal, Anthracite Chestnut (2,240 lb.)	Steel, Structural (lb.)
1913	100.0	100.0	100.0	100.0
1917	147.6	203.9	111.7	387.5
1918	207.2	243.8	126.0	206.3
1919	198.3	274.2	156.3	168.8
1920	180.8	320.3	179.8	200.0

[1] See references on the construction of index numbers at end of chapter.

In this form the series of prices for the desired commodities are more easily compared. A further step, however, can be advantageously taken; the four series may be averaged to show composite prices for each of the years:

1913	100.0
1917	212.7
1918	195.8
1919	199.4
1920	220.2

10. Index of United States Bureau of Statistics.—In the foregoing tables, only four articles are given, and each is considered of equal importance. Composite averages which are computed from such restricted data are likely to be distorted and do not express representative conditions. It is therefore desirable to include in the computation a large number of commodities and to weight them according to their relative importance, as determined by the amounts consumed or marketed. For example, the United States Bureau of Labor Statistics in computing index numbers of wholesale prices includes over 300 articles and weighs the price of each article by the estimated quantity of the article marketed in the last census year. Not all, however, of the index numbers in current use present the comparisons in terms of relative numbers calculated in percentages. Bradstreet's index number, based upon about 100 articles, represents simply the sum of actual prices reduced to a per pound basis. Some of the best known index numbers use less than 50 series of quotations; that of the London Economist includes 44 articles, that of Sauerbeck 45, and the New York Annallist series 25. If the articles be wisely chosen, there is little variation between the index number based upon many commodities and that based upon a few.

The table on the following page shows the changes in wholesale prices between 1890 and 1920, according to the United States Bureau of Labor (1913 = 100):[2]

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[2] *Monthly Labor Review*, Feb. 1921, p. 45.

UNITED STATES BUREAU OF LABOR INDEX NUMBER FOR WHOLESALE PRICES

Year	Index Number	Year	Index Number
1890	81	1906	88
1891	82	1907	94
1892	76	1908	91
1893	77	1909	97
1894	69	1910	99
1895	70	1911	95
1896	66	1912	101
1897	67	1913	100
1898	69	1914	100
1899	74	1915	101
1900	80	1916	124
1901	79	1917	176
1902	85	1918	196
1903	85	1919	212
1904	86	1920	243
1905	85		

The bureau also publishes index numbers for retail prices of 22 articles of food for the years 1907–1920, as follows (1913 = 100):[3]

UNITED STATES BUREAU OF LABOR INDEX NUMBERS FOR RETAIL PRICES

Year	Index Number	Year	Index Number
1907	82	1914	102
1908	84	1915	101
1909	89	1916	114
1910	93	1917	146
1911	92	1918	167
1912	98	1919	186
1913	100	1920	203

[3] *Monthly Labor Review*, Feb. 1921, pp. 19–21.

11. Effects of Fall in Price Levels.—Reference has been made to the fall of prices after the Civil War, continuing until nearly the end of the last century, and to the influence of this decline in arousing demand for inflation in the currency, either by an increase in government paper money or by the free coinage of silver. Beginning with 1897 there was an upward movement in prices, and during the recent war the advance was extreme. As early as 1910 the advance had attracted wide public discussion and created what is popularly known as the "cost of living" problem. More recently, beginning with 1920, there has been a fall in prices. The effects of these opposing movements may be briefly summarized as follows.

A fall in prices is especially disadvantageous to producers who have borrowed money at a higher level. The debt, including principal and interest, is a fixed overhead charge which must be met, though the selling price of goods falls. The creditor on the other hand gains by a fall in price, and in the organization of economic society as a whole it may be said that the loss of one class is offset by the gain of the other. If, however, a particular business is based largely upon borrowed capital, so that interest forms a large item in the cost of production, there is little compensation, to those engaged in that class of enterprise, from a fall in prices. This was the position of many farmers who purchased farms or farm equipment upon borrowed money at the close of the Civil War, and as a result many of this class supported the earlier proposals for inflation.

A similar disadvantage is found in branches of business which are accustomed to carry large inventories of raw materials or finished goods. If prices fall, sales must be made at a loss. Moreover, in a falling market the demand for goods is hesitating, for each possible buyer is influenced by the consideration that by waiting he may be able to purchase the goods desired at a lower price. Falling prices thus place a burden upon debtors, may depress business, and if long continued may cause unemployment.

Wages will undoubtedly be reduced, but the wage-earners do not necessarily suffer since they are compensated by the reduced cost of living. Current transactions can be adjusted to a new level without serious disturbance, but the settlement of contracts made in the past is far more difficult.

12. **Influence of Rising Prices.**—On the other hand, rising prices, which are advantageous to the producer, are a burden upon the consumer. If the consumer is at the same time a producer to an equal degree, his purchasing power is not changed, but if the rise be rapid it is difficult to make these adjustments promptly, so that the burden of an increasing cost of living will not be felt by a part of the community. The rise in prices places greater burdens upon investors and those who receive fixed salaries. Investors, however, though powerless to obtain relief until their investments mature, and though they must make sacrifices, are not as a class endangered, for the possession of an investment gives some protection. The salaried class will be at a disadvantage, for salaries do not quickly respond to changing conditions of economic life, but this group generally has a margin of compensation which it can sacrifice without immediate and serious distress. Wage-earners are more frequently in a position to secure a readjustment of compensation in proportion to the cost of living. The rise in prices stimulates business enterprise, for the manufacturer is protected to a certain degree against loss by the advance in the price of the raw materials which enter into the finished product, during the time which it takes to manufacture the goods; and the trader is likewise safeguarded because to the profit obtained by marketing is added the differential due to price increase. During the period of rising prices there is a greater disposition to assume the risk of indebtedness. High profits not only justify an expansion of business upon credit, but also beget carelessness in incurring debts. As long, however, as prices rise, danger does not appear imminent.

Many reasons have been given for the rise of prices beginning in 1915, and various plans have been proposed not only to check the rise but also to restore the pre-war level. Special causes which affect prices, as changes in cost of production, tariff duties and taxation, monopolies, trade union regulations, extravagance and speculation, lie outside of our subject matter, but the relation of the volume of money to prices requires a brief consideration in order to explain the question of inflation as it was developed during the war period.

13. **Quantity Theory of Money.**—Economists with few exceptions agree that the quantity of money is an important factor in determining the general level of prices. This is known as the "quantity theory of money." In the making of prices two factors are included: first, the volume of business transactions, and second, the supply of currency. If the supply of money and other forms of credit currency increases faster than the quantity of goods transferred in the market, prices will rise; if the quantity of goods to be marketed increases faster than the circulating medium, prices will fall; and if both increase or decrease in the same proportion, prices will remain stationary.

This principle may be illustrated by assuming that a sudden addition is made to the supply of money. If $100 million worth of gold be brought from the mines to the mints, the owners of this gold will be in possession of that amount of coin which will be spent in some form or other. A part will be expended for commodities and this will create an additional demand for these goods. Their price will tend to rise. Or if the mine-owners invest a part in securities, as of railroads or manufacturing corporations, the money will be used by these companies in the purchase of supplies and equipment, and again there will be a tendency for such goods to rise in price. Labor and goods engaged in the process of mining have been converted into the money article, which is thereby effective for continuous exchange and valuation of articles.

Or suppose that there are 100,000 workmen whose labor can be applied either to agriculture for the production of wheat or in mining for the production of gold, and that before labor begins operations an ounce of gold is worth 20 bushels of wheat. If gold is $20 per ounce,[4] the price of wheat is $1 per bushel. Let it also be assumed that labor is equally productive, whether in agriculture or in mining; that is, during a year a workman can produce, over and above the cost of production, either 1,000 bushels of wheat or 50 ounces of gold. If mining has been undertaken, there is an immediate market for the gold at the mint at a fixed price, viz., $20 per ounce, and it is at once converted into coin which has a purchasing power of $100 million. If there be no greater amount of wheat on hand at the end of the year, and there is nothing to purchase with the gold except wheat, it is obvious that the added purchasing power of $100,000,000 would greatly increase the demand for wheat. An owner of gold would give more than a twentieth of an ounce, or $1 of gold, for a bushel of wheat. The price of wheat would rise.

On the other hand, if the labor had been directed to the growing of wheat, 100 million bushels would be offered for sale. If there be no greater amount of gold at the end of the year than there was at the beginning, and there was nothing to exchange for the wheat except gold, it is obvious that the added offering of 100 million bushels of wheat would greatly increase the demand for gold. An owner of a bushel of wheat would give more than a bushel for a twentieth of an ounce of gold, or $1. That is, the price of a bushel would be less than $1, or price falls.

If 50,000 workmen are engaged in raising wheat and 50,000 in mining gold, the result would be 50 million bushels of wheat and 25,000 ounces of gold. The purchasing power of the gold is $50 million and the ratio of wheat to gold is exactly the same as at the beginning of the year.

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[4] $20, rather than the actual mint price of gold, is assumed for convenience in calculation.

In the foregoing illustration it has been assumed that there are only two commodities, wheat and gold. The same forces are operative if there be more than two commodities. Assume that 50,000 workmen mine gold, 25,000 raise wheat, and 25,000 manufacture woolen cloth; also that before this new production, a bushel of wheat will exchange for a yard of cloth. Prices, therefore, are: wheat, $1 per bushel; cloth, $1 per yard.

At the end of the year there is a new supply of gold convertible into coin, $50 million. There is also an addition of 25 million bushels of wheat and 25 million yards of cloth. There is no change in the ratio between wheat and cloth, but there is a change in the ratio between gold and wheat, and equally so between gold and cloth. The possessors of gold may prefer to increase their holdings of cloth rather than of wheat. Purchasing power will be directed toward cloth more than toward wheat. The price of cloth will rise accordingly, and if purchasing power is not applied to wheat, the price of that commodity may not be affected. But it is probable that the possessors of cloth may desire a greater amount of wheat. With the gold obtained in exchange for cloth, they will apply their purchasing power upon wheat, and the price of wheat rises. The mere presence of gold does not change prices, but the use of gold is its influence upon purchasing power.

14. Credit Money and the Quantity Theory.—A similar effect is brought about if forms of credit money, as, for example, bank notes or deposit credits, are created. As money and credit instruments are identical in their power to effect exchanges, their use affects prices in an equal degree. Taussig states this position as follows:

> A purchase on credit has the same immediate effect in prices as a purchase with cash. If, in addition to a given number of purchasers offering money, there are as many more, whose credit is good, offering to buy on time, the effect on the seller is the same

as if the entire number offered money. With a fixed supply of commodities, prices would double in either case.[5]

The credit of banks or of business enterprise is transformed into a medium by which purchasing power is expressed.

The increase in spending power is illustrated by the loans of national banks. In 1914 (June 30) these amounted to $6,430 million; in 1918 (November 1) they were $10,097 million; and in 1920 (May 4), $12,289 million. In six years the banks were able to grant to borrowers facilities by which they could nearly double their purchasing power. This would constitute an important factor in increasing the demand for commodities and tend to raise prices. These loans were not necessarily made in actual money, but could be effected by deposit credits.

If these new loans and deposit currency represented a corresponding increase in business transactions and consequently an increase in the amount of money work to be done, there would be no change in prices. If, however, they represented new accessions of money, as gold and bank notes, with a proportionately less amount of business transactions to be handled, the relation between the money supply and commodities would be changed and prices would rise. This was the case. Large imports of gold meant a decrease of commodities in return for an increase of gold; large issues of federal reserve notes in exchange for government obligations meant a consumption and destruction of commodities in return for ultimate promises of the government. The government through the machinery of bond issues and the federal reserve banks was a generous spender; its increased purchasing tended to raise prices; and this in turn enabled individuals who produced to increase their purchasing power. But there was not a corresponding increase in production or amount of commodities to be sold. Purchasing power outstripped the volume of business transactions to be handled.

[5] F. W. Taussig, Principles of Economics, Vol. I, p. 427.

In the application of the quantity theory of money, money is given a broad interpretation—it includes not only gold and silver coins, government promissory notes, and bank notes, but also deposit currency—it comprehends everything which performs the work of money. Consideration must also be given to the velocity of circulation—that is, the rapidity with which exchanges can be effected—and also to the volume of trade which gives rise to exchange transactions. As Walker states it:

> We should all agree that the value of money depended on the demand for and supply of money. In speaking of the demand for money, we should of course understand that the effective occasions for its use in exchange were meant, and consequently, we should have reference not merely to the amount of goods purchased, but also to the frequency with which those goods were to be exchanged in their passage from producer to consumer. Again, in speaking of the supply of money, it would be understood, almost without the necessity of explanation, that reference was had, not alone to the number of money pieces, but also, and conjointly with this, to the rapidity of their circulation. "The nimble sixpence does the work of the slow shilling."[6]

It must not therefore be assumed that it is an easy matter to determine what prices will be, simply from a consideration of the volume of money. There is a continuous change in the volume of trade, in the velocity of circulation of money and credit, in the ratio between bank reserves and deposits, and in the volume of deposits. All that can be claimed, at the present stage of analysis of market and trade operations, is that over a long period of time the quantity of money determines the level of prices. During shorter periods there are many factors, whose influences are not as yet clearly understood, which enter into the determination of current prices. Particularly is this true of transition periods so characteristic of the business cycle today.

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[6] "The Value of Money," paper read before American Economic Association (1893), published in Discussions in Economics and Statistics, Vol. I, p. 196.

Professor Irving Fisher, one of the most recent and vigorous advocates of the quantity theory, makes the following qualifications:

> We have seen, for instance, that a sudden change in the quantity of money and deposits will temporarily affect their velocities of circulation and the volume of trade. Reversely, seasonal changes in the volume of trade will affect the velocities of circulation, and even, if the currency system is elastic, the quantity of money and deposits. In brisk seasons, as when "money is needed to move the crops," the velocity of circulation is evidently greater than in dull seasons. Money is kept idle at one time to be used at another, and such seasonal variations in velocity reduce materially the variations which otherwise would be necessary in the price level. In a similar way seasonal variations in the price level are reduced by the alternate expansion and contraction of an elastic bank currency. In this case temporarily, and to an extent limited by the amount of legal tender currency, money or deposits or both may be said to adapt themselves to the amount of trade. In these two ways, then, both the rise and fall of prices are mitigated. Therefore the "quantity theory" will not hold true strictly and absolutely during transition periods.[7]

15. Relation of Prices and Volume of Currency Illustrated.—During the recent rapid rise of prices, there was a great increase in the volume of currency. Is there any causal relation between the two movements? The question may be illustrated by an analysis which Professor E. W. Kemmerer has made, representing the growth of business (as indicated by 12 indices, e. g., production of pig iron, wheat, cotton, coal, freight tonnage, building, etc.), monetary circulation, deposit currency, and prices.[8]

Using index numbers in order to compare different economic movements, the changes which took place between 1910 and 1917 are presented as follows (the average of 1910–1914 = 100):

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[7] The Purchasing Power of Money, p. 161.

[8] "Inflation," in *American Economic Review*, Vol. VIII (June 1918), p. 247.

TABLE SHOWING CHANGES IN SEVERAL ECONOMIC FACTORS, 1910–1917

Year	Growth of Business	Monetary Circulation	Bank Deposits	Wholesale Prices
1910	93	95	90	99
1911	95	98	94	97
1912	102	100	102	101
1913	105	102	104	102
1914	104	106	110	101
1915	108	111	118	102
1916	113	125	147	125
1917	127	148	174	178

From this table it can be computed that growth of business increased between 1913 and 1917, 21 per cent; monetary circulation 45 per cent; bank deposits 67 per cent; and prices 75 per cent. During the next two years, 1918–1919, the physical volume of trade declined, while there was a further increase in monetary circulation, bank deposits, and prices. If the volume of trade declined, it may be assumed that the volume of exchange transactions requiring the use of money declined. The need of money to do money work accordingly diminished. If at the same time the volume of money and bank credit increased and prices of practically all commodities were higher, it is concluded that the cause was an increased supply of money rather than a scarcity of goods.

16. Equation of Exchange.—The operation of the quantity theory of money may be expressed by an algebraic formula. Professor Kemmerer states it as follows:[9]

$$P = \frac{MR}{N}$$

P = price.
M = money.
R = rapidity of circulation.
N = the amount of business or number of business transactions.

[9] E. W. Kemmerer, Money and Prices, p. 15.

Professor Irving Fisher presents the equation of exchange in somewhat fuller form:

$$MV + M'V' = PT$$

M represents the volume of money in circulation, exclusive of the amount in the United States Treasury and banks.

V represents the velocity of its circulation, that is, the number of times that the money in circulation is turned over in a year.

M' represents the volume of bank deposits subject to check.

V' represents the velocity of circulation of M', that is, the activity of bank accounts.

T represents the volume of trade, or the transactions effected by money and deposits.

P represents the price level.

In the above equation, therefore, MV, representing the product of the money in circulation multiplied by its velocity of circulation, expresses the total monetary circulation or the total expenditure of money per annum.

In the same way $M'V'$ expresses the total deposit circulation, or the total expenditure by checks per annum.

PT represents the total value of the goods bought, expressed as the product found by multiplying the price level by the volume of trade.

From this equation, it is obvious that:

$$P = \frac{MV + M'V'}{T}$$

As V (velocity of money in circulation) is fairly constant, this means that the price level moves up or down according to the increase or decrease in money, to the change in deposits subject to check, and to the varying velocity of the deposit checks. The change in $M'V'$ is reflected in the fluctuations in bank clearings.

The foregoing equations of Kemmerer and Fisher are in no sense a proof of the quantity theory of money. They are simply

expressions of an identity. The equivalence of the two sides of an equation over a period of years neither demonstrates nor disproves the quantity theory.

Statistical calculations have been made by Professor Fisher for the five factors, M, M', V, V', and T for a series of years beginning with 1896, and the resultant values of P determined. A comparison of these values with the actual level of prices as determined by index numbers shows but slight differences.

17. Multiple or Tabular Standard of Value.—Various proposals have been made to remedy the disturbances caused by fluctuations in the price level. One of the earliest of these plans was the multiple or tabular standard of value, based upon the prices of commodities. By the use of such a standard a debtor would pay in money, not the sum which he originally borrowed, but a sum which would buy the same amount of goods as could have been purchased at the time the debt was contracted. The determination of these amounts would be effected through the preparation and publication of index numbers by some constituted authority, as the government; and the changes in index numbers would measure the money equivalent to be paid.

Reference has been made to the fall of prices after the Civil War. Let it be assumed that the index number of articles selected for the multiple standard was 120 in 1870 and that a debt of $1,000 was incurred in that year, running for five years at 6 per cent interest. At the end of one year, when interest is due, the index number stands at 114. How much should the debtor pay and how much should the creditor receive, in order to remain on exactly the same economic footing as when the loan was made? The prices of commodities have fallen 5 per cent; obviously $57 will purchase as much as the $60 anticipated. The creditor is receiving a compensation, measured in purchasing power, which will give him the same purchasing power as he enjoyed when he made the loan.

If the index number should rise to 126, economic equity, by the same reasoning, would demand that the debtor pay $63 in order that the creditor should not suffer any real loss in the income which he expected.

In the table on page 437 it is seen that prices rose between 1896 and 1913, a period of 17 years, from 67 to 100. If an investor purchased in the former year at par a 4 per cent $1,000 bond, maturing in 1913, he would receive annually $40, and at maturity $1,000. As prices rose, the $40 which the investor received year by year would purchase a diminishing amount of articles, and in 1913, the $1,000 received on payment of the principal of the loan would purchase far less than in 1896. Not only did the interest payments yield less real income than had been anticipated, but the purchasing power of the principal when returned, was less by one-third.

As yet proposals for the substitution of a standard other than gold have attracted but little interest. Index numbers are only approximations of the actual level of prices and their proper construction is still a matter of dispute, owing to technical difficulties in the selection of the articles, the variation of prices of the same article in different markets, and the uncertainty of the degree of weight to be given to the several commodities. Notwithstanding their defects, which make the compulsory acceptance of such a standard undesirable, the principle of a multiple standard has been used, apparently with advantage, by voluntary agreement. For example, certain employers pay their workmen wages which are periodically adjusted to prices as indicated by one of the current series of index numbers.

18. Stabilized Dollar.—The use of a multiple standard does not do away with price fluctuations; it is simply a device to mitigate the evils. In more recent years, attention has been directed to the possibility of preventing price fluctuations by changes in the money standard. For example, Professor Fisher

proposes that the weight of the gold dollar be varied so as to keep its purchasing power unvariable.[10] "We now have a gold dollar of constant weight and varying purchasing power. We need a dollar of constant purchasing power and therefore of varying weight." Professor Fisher would not abandon the gold standard, but simply change the weight of the gold dollar as prices rose or fell. Gold coins would be abolished and the government would hold all the physical gold, against which bullion certificates are to be issued. Thus an ounce of gold held by the government would support a varying number of dollar bullion certificates, according as prices changed. The degree of change in the weight of the gold dollar supporting the bullion certificate would be adjusted to the change of prices as determined by the index number of prices. If prices rise 1 per cent, 1 per cent more gold will be added to the dollar. As all gold circulated in the form of paper representatives, it would be possible to vary at will the weight of the gold dollar "without any annoyance or complexity as would arise from the existence of coins." The result would be a stabilized dollar.

The plan has the merit of simplicity, but, like the use of a multiple standard, involves a radical change in the habits of the business world. It is not likely, therefore, that it will receive any large degree of support in the near future. It is desirable, however, that the unsatisfactory service of the present monetary standard be clearly recognized and that sympathetic consideration be given to all proposals that might diminish violent changes in the purchasing power of money.

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APPENDIX A

PROBLEMS WITH SOLUTIONS

In banking and credit, as in other branches of economics, a liberal use of illustrative problems serves to promote effectively a thorough grasp of the subject. Not only is the student given a nucleus about which he can center his ideas gained in dealing with material of a more abstract nature, but he has the important satisfaction of knowing that he has accomplished some concrete and tangible part of his task. From the viewpoint of the teacher a well-selected problem should serve as a talking point or a text, from which he can expand and digress as much as he judges it to be desirable. Naturally many points are not susceptible of one definite answer but are more or less moot; not to bring this to the realization of the student is, of course, quite as bad as to leave him with merely very general impressions.

Solutions have been furnished with some of these problems for two chief reasons; first, in order that they may serve as a guide in working out similar problems set by the instructor and, second, to save time for the reader or student who can master the point of the problem without obtaining an independent answer. For the purpose of providing the student with similar problems for independent solution, the instructor may easily vary the figures in the problems presented here in the Appendix as well as those scattered throughout the main part of the text.

To aid the reader in solving the problems, interest tables will be found in Appendix C.

1. A mining company sends to the United States Mint 10,000 ounces of gold, .950 fine. The mint charges 2 cents an ounce for removing the impurities. The gold is coined into pieces of standard fineness. How much gold will the company receive in dollars, there being no charge for coining

except 2½ cents per ounce for the copper alloy? The coining value of an ounce of pure gold is $20.67183. United States gold coins are 9/10 fine and 1/10 alloy.

SOLUTION 1 (basis value):

10,000 ounces .950 fine = 9,500 ounces pure gold
9,500 ounces pure gold × $20.67183 = $196,382.39, value in coin
9,500 ÷ 9 = 1,055.55 ounces of alloy
1,055.55 × $.02 1/2 = $26.39, charge for alloy
10,000 × $.02 = $200, charge for refining
$200 + $26.39 = $226.39, total charges
$196,382.39 − $226.39 = $196,156.00, net coin received

SOLUTION 2 (basis weight):

1 ounce troy weight = 480 grains
Fine gold in $1 = 23.22 grains

$$\frac{9{,}500 \times 480}{23.22} \times \$1 = \$196{,}382.43$$

$196,382.43 − $226.39 charges as above = $196,156.04, net coin received.

Difference of $0.04 in answer is due to use of decimal fraction in Solution 1.

2. Suppose that the weight of the gold dollar is increased 1 per cent. What will be the mint price of gold per fine ounce?

SOLUTION:

Grains of fine gold in dollar at present	23.22
Add 1%	0.2322
Grains if weight is increased 1%	23.4522

Divide 480, the number of grains in an ounce of gold, by 23.4522 (times $1) and the result, $20.47, will be the mint price under the conditions given.

3. Suppose that the weight of the gold dollar is increased 1 per cent. What will be the par of exchange with England?

SOLUTION:

Grains of fine gold in dollar if weight is increased 1%	23.4522
Grains of fine gold in a sovereign	113.0016

Dividing 113.0016 by 23.4522 (times $1), the result, $4.818, is the par of exchange with England under the conditions given.

4. Suppose that the gold dollar is 11/12 fine, with no change in weight. What will be the mint price of gold per fine ounce?

SOLUTION:

Present weight of gold dollar, 25.8 grains
$11/12 \times 25.8 = 23.65$ grains of fine gold

Divide 480, the number of grains in an ounce of gold, by 23.65 (times $1) and the result, $20.30, will be the mint price per fine ounce under the conditions given.

5. Suppose that the gold dollar is 11/12 fine with no change in weight. What will be the par of exchange with England?

SOLUTION:

Grains of fine gold in dollar if 11/12 fine	23.65
Grains of fine gold in a sovereign	113.0016

Dividing 113.0016 by 23.65 (times $1), the result, $4.778, would be the par of exchange with England under the conditions given.

6. If a $20 gold piece is melted what will the gold bullion be worth? If $20 in silver dollars is melted what will the silver bullion be worth? Explain the reason for the difference. Assume that the gold and silver coins are full weight and have not been worn by circulation.

SOLUTION:

(a)

Grains of pure gold in a dollar, 23.22, and in $20, 464.40

$$464.40 \text{ grains} = \frac{464.40}{480} \text{ ounces}$$

$$\frac{464.40}{480} \times \$20.67, \text{ mint price per fine ounce} = \$20$$

(The calculation does not work out exactly $20, which is the correct answer, as the mint price, $20.67, is not an exact figure but the price to the nearest cent.)

(b) Weight of a standard silver dollar is 412.5 grains 9/10 fine; $20 in silver therefore contains 8,250 grains 9/10 fine. The price of silver like any other commodity is continually changing. At 60 cents per standard ounce, 8,250 grains is worth $\frac{8250}{480} \times \$0.60 = \$10.3125$, or each silver dollar will have an intrinsic value of $0.515625.

(c) Gold is the monetary standard of the United States and has a free and unlimited coinage. Anyone may send gold bullion to the mint and after paying slight charges for assaying and refining, etc., will receive coins equal in weight to the metal sent. Gold bullion of a given weight and fineness, therefore, will command in the market a price equal to the number of gold dollars it will make if coined. The possibility of melting the coin into bullion or having the bullion coined causes an interchangeability and consequently an identical value for a given quantity of gold in the form of bullion or coin.

It is assumed, of course, in the above statements that we are considering the normal situation when the country is actually on a gold standard and has not temporarily suspended specie payments, as in the case of most European countries at present.

Silver does not have free and unlimited coinage like gold; no individual may send silver bullion to the mint for coinage. From time to time silver is purchased in the market by the government in competition with other buyers who desire it for industrial and other commercial purposes.

In 1919 silver bullion reached an exceptionally high price and this was reflected in high exchange rates on silver standard countries. In order to stabilize such exchanges and more particularly those on the Far East, the Treasury released for foreign shipment some of the silver dollars it then held. At the same time Congress passed a law which provided for the subsequent purchase of an equivalent amount of silver bullion at $1 an ounce to replace these silver dollars which had been released by the Treasury. Aside from this artificial price, which will disappear when the total quantity of bullion provided for is purchased, the price of silver is determined in the same way as the price of any other commodity.

Only by limiting the number of silver coins to the needs of the country can their value be kept equal to the value of gold coins. Obviously, whenever the government purchases 50 cents' worth of silver and coins 4 quarters or 10 dimes it is making a profit of 50 cents. This source of profit, however, has decided limitations. Any attempt to carry it beyond the needs of the country would endanger our gold standard and bring about confusion in our monetary system.

7. A business house negotiates a loan at its bank by discounting a 60-day non-interest-bearing note for $10,000 received from a customer. The note is discounted at 7 per cent on the day it is received and the borrower agrees to maintain a deposit balance of about 20 per cent of the loan, or, say, $2,000.

(a) What is the real rate of interest paid by the borrower, assuming that the bank pays no interest on deposit balances?

(b) Answer the same question assuming that the bank pays 2 per cent interest on the deposit balance which averages $2,000.

SOLUTION:

(a)

Face of 60-day note	$10,000.00
Deduct interest at 7% for 60 days	116.67
Proceeds to credit of borrower	$9,883.33
Deduct balance not withdrawn	2,000.00
Amount of loan actually used	$7,883.33

$\frac{\$116.67}{\$7,883.33} = .0148$, rate of interest for 60 days

$.0148 \times 6 = .0888$, rate of interest for 1 year of 360 days

(b)

7% discount on $10,000 for 60 days	$116.67
Deduct 2% interest on $2,000 for 2 months	6.67
Net cost of funds borrowed	$110.00
Amount of loan actually used	$7,883.33

$\frac{\$110.00}{\$7,883.33} = .014$, rate of interest for 60 days

$.014 \times 6 = .084$, rate for 1 year of 360 days

8. On April 1 a merchant presents for discount at a bank a note dated the same day for $5,000 due in 60 days. The note bears interest at 6 per cent and the bank's rate of discount is 6 per cent. What will the note yield to the merchant?

On May 1 the bank sells the above note to another bank at the same discount rate. What profit will the first bank make by the transaction? The second bank?

SOLUTION:

April 1

Face of note	$5,000.00
Add interest for 60 days at 6%	50.00
Amount due on note at maturity	$5,050.00
Deduct discount for 60 days at 6%	50.50
Proceeds received by merchant	$4,999.50

May 1

Amount due on note at maturity	$5,050.00
Deduct discount for 30 days at 6%	25.25
Proceeds received by first bank	$5,024.75
Cost to first bank	4,999.50
Profit of first bank	$25.25
Proceeds received at maturity by second bank	$5,050.00
Cost to second bank	5,024.75
Profit of second bank	$25.25

9. (a) If a bill is drawn to mature 3 months from August 25, when does it become due?

(b) If a bill is drawn to mature 90 days from August 25, when does it become due?

SOLUTION:

(a) November 25, unless that date falls on Sunday or a holiday, in which case the due date would be the next business day following November 25.

(b) November 23, unless that date falls on Sunday or a holiday, in which case the due date would be the next business day following November 23.

10. Find the net proceeds of a 90-day note for $1,200 dated September 12, bearing 5 per cent interest and discounted October 7 at 6 per cent.

SOLUTION:

Face of note	$1,200.00
Add 90 days' interest at 5%	15.00
Amount due at maturity	$1,215.00
Due date 90 days from September 12 is December 11	
Discounted October 7 for 65 days	
Discount for 65 days at 6% on $1,215 is	13.16
Net proceeds	$1,201.84

11. On October 26 the Washburn Chemical Company of Boston sold to its bank a 60-day promissory note for $3,000, dated October 21 and bearing 7 per cent interest. The bank's discount rate was 7 per cent. What are the proceeds?

SOLUTION:

Face of 7% 60-day note	$3,000.00
Interest for 60 days at 7%	35.00
Amount due at end of 60 days	$3,035.00
Discounted October 26 for 55 days at 7%	32.46
Proceeds	$3,002.54

12. In what time approximately will it take a given sum to double itself at compound interest at a given rate? For example, how long would it require $100 placed in a bank at 4 per cent, interest compounded quarterly, to amount to $200?

SOLUTION: The following approximation formula is convenient for obtaining results accurate to within less than a year:

$$n = \frac{.693}{i} + .35$$

where n represents the number of periods (1 year, ½ year, ¼ year, etc.) and i represents the rate of interest for a period. Solving the above problem we get:

$$n = \frac{.693}{.01} + .35 = 69.65 \text{ periods of } 1/4 \text{ years, or } 17.4 \text{ years}$$

If we divide 70 by the rate of interest the result is close enough for most practical purposes and the formula can be remembered more easily when thus simplified.

13. Many banks advertise the payment of interest on daily balances of checking accounts at a nominal rate, which is commonly 2 per cent. One method of computing the interest is to add together the balances for each day and allow a 1 day's interest on the total. For example, suppose that the bank's account with the A B C Company showed these facts:

	Deposits	Withdrawals	Balance
May 1	$700	$...	$700
2	400	200	900
3	...	...	900
4	750	500	1,150
5	360	400	1,110
6	900	700	1,310

	Deposits	Withdrawals	Balance
May 7	450	560	1,200
8	600	450	1,350
9	525	875	1,000
10	...	...	1,000
11	875	600	1,275
12	690	580	1,385
13	430	800	1,015
14	510	620	905
15	770	475	1,200
16	600	560	1,240
17	...	...	1,240
18	685	535	1,390
19	715	650	1,455
20	565	800	1,220
21	740	860	1,100
22	800	600	1,300
23	910	720	1,490
24	...	...	1,490
25	760	810	1,440
26	450	625	1,265
27	950	700	1,515
28	1,000	650	1,865
29	540	890	1,515
30	760	950	1,325
31	...	...	1,325
	$17,435	$16,110	$38,575

One day's interest on $38,575 at 2 per cent per annum is $2.11.

14. On January 1, 1922, $300 is deposited in a savings bank which pays 4 per cent interest, compounded semiannually. What will the deposit amount to 10 years later?

SOLUTION: Refer in Appendix C to Table 3, "Compound Interest on $1." Since interest is to be compounded twice a year there will be 20 interest periods and the interest rate is 2 per cent per period. Therefore, if we take the figure in the table, opposite 20 periods and under 2 per cent, we find that $1 deposited at 2 per cent interest per period will amount to $1.485947 at the end of 20 periods. Similarly $300 will amount to 300 × $1.485947, or $445.78.

15. A father wishes to set aside in a bank, at the birth of his son, a sum which will accumulate to $10,000 by the time the son reaches his majority. Assuming that the bank rate of interest is 4 per cent, compounded semiannually, what is the sum required?

SOLUTION: Refer in Appendix C to Table 4, "The Present Worth of $1." Since interest is to be compounded semiannually there will be 42 interest periods in 21 years and the semiannual interest will be 2 per cent. Therefore, if we take the figure in the table, opposite 42 periods and under 2 per cent, we find that $0.435304128, set aside and allowed to accumulate at 2 per cent semiannual interest, will amount to $1 at the end of 21 years.

In order to accumulate $10,000 under the same conditions, it would be necessary therefore to set aside 10,000 times $0.435304128, or $4,353.041.

16. A man puts $25 into a savings bank at the end of every month for 10 years. If the bank pays 4 per cent interest per year, compounded semiannually, what will the savings amount to at the end of 10 years?

SOLUTION: Refer in Appendix C to Table 5, "The Amount of $1 per Annum." Since interest is to be compounded semiannually, there will be 20 interest periods in 10 years and the semiannual interest will be 2 per cent. Therefore, if we take the figure in the table, opposite 20 periods and under 2 per cent, we find that $1 set aside each 6 months, at 2 per cent semiannual interest, will amount to $24.297370.

$25 set aside each month, or $150 each 6 months, therefore amounts to 150 × $24.297370 or $3,644.61.

17. Banking transactions:

PURITAN NATIONAL BANK

Resources

Loans and discounts	$8,550,000
United States bonds	1,890,000
Other bonds and securities	1,015,000
Customers' liability account of acceptances	315,000
Stock in federal reserve bank	60,000
Banking house and vaults	160,000
Exchanges for the clearing house	300,000
Cash	285,000
Due from banks	700,000
Interest earned, not collected	30,000
	$13,305,000

Liabilities

Capital	$1,000,000
Surplus and undivided profits	1,540,000
Reserve for taxes and interest	45,000
Unearned discount	115,000
National bank notes outstanding	965,000
Deposits	9,120,000
Acceptances executed for customers	315,000
Reserve for depreciation of securities	150,000
Reserve for depreciation of buildings and vaults	55,000
	$13,305,000

REQUIRED: Make such changes in the above statement as are necessitated by the following transactions:

1. $10,000 in cash received for dividends and interest on stocks and bonds.
2. $100,000 received on deposit, of which $25,000 is in cash and $75,000 in checks on other banks.
3. A depositor cashes his personal check at the bank for $1,000.
4. Payment of $30,000 in cash on account of taxes.
5. Payment of $25,000 in cash for salaries.
6. Expenditure of $15,000 in cash for installing additional vaults.
7. A customer, in whose behalf an acceptance credit of $20,000 had been granted, settles the transaction at maturity of acceptance by drawing his personal check on the bank for $20,050, covering the amount of the credit plus a commission of ¼ per cent. Bank pays holder of acceptance with $20,000 draft on an out-of-town bank.
8. $200,000 of new bills and notes are discounted for customers at an average rate of 6 per cent per annum for an average time of 3 months. Those receiving discounts take $10,000 in cash, and the remainder of the proceeds is left on deposit.
9. $15,000 in cash invested in municipal bonds.
10. At the clearing house the bank presents checks on other banks to the amount of $375,000 and receives for settlement depositors' checks on itself for $600,000. Settlement with the clearing house is made by drawing a check in its favor on the federal reserve bank.

NOTE: In making the necessary changes called for the above transactions, show only the items that would be affected. Also indicate by a plus or minus sign the amount of increase or decrease.

SOLUTION:

	Resources			*Liabilities*		
1	Cash	+	$10,000	Surplus and undivided profits	+	$10,000
2	Cash	+	25,000	Deposits	+	100,000
	Exchanges for clearing house	+	75,000			
3	Cash	−	1,000	Deposits	−	1,000
4	Cash	−	30,000	Reserve for taxes and interest	−	30,000
5	Cash	−	25,000	Surplus and undivided profits	−	25,000
6	Cash	−	15,000			
	Banking house and vaults	+	15,000			
7	Customers' liability account of acceptances	−	20,000	Acceptances executed for customers	−	20,000
	Due from banks	−	20,000	Deposits	−	20,050
				Surplus and undivided profits	+	50
8	Loans and discounts	+	200,000	Deposits	+	187,000
	Cash	−	10,000	Unearned discount	+	3,000
9	Cash	−	15,000			
	Other bonds and securities	+	15,000			
10	Exchanges for clearing house	−	375,000	Deposits	−	600,000
	Due from banks	−	225,000			

18. Surplus of a Bank: The purpose of this problem is to make clear the meaning of "surplus" on a bank's statement; to show that surplus signifies the amount by which total assets exceed capital stock, undivided profits, deposits, and other liabilities; and to indicate that it does not represent anything tangible, such as a fund of cash, securities, or other assets.

Using the statement of the Indian National Bank in Problem 25, indicate the changes that would be required in the statement as a result of the following transactions:

(a) Reducing surplus by investing one-half of it in Liberty bonds purchased for cash.

(b) Using surplus to pay depositors to whom the bank owes $10,000 on demand.

(c) Transfer $500,000 of undivided profits to surplus.

(d) Bonds and securities to the extent of $15,000 are found to be worthless and are written off the books.

(e) Drawing upon surplus $75,000 to increase the legal reserve maintained at the federal reserve bank.

(f) Declaring and paying a cash dividend of 2 per cent.

(g) Declaring and distributing a stock dividend of 50 per cent.

SOLUTION: (a) This transaction as it reads is impossible. In the first place, the cash on hand is less then one-half of the surplus, and, second, if Liberty bonds were purchased there would be no change whatever in the surplus account. Instead, "cash" under assets would be reduced and, offsetting this, "Liberty bonds" under assets would be increased exactly the same amount, thus making no change in total assets and no change in any liability.

(b) This transaction is also impossible. Paying depositors $10,000 would not affect surplus, but would instead reduce cash and deposits by that amount.

(c) Increase surplus $500,000 and decrease undivided profits the same amount. This is merely a bookkeeping operation; no cash, securities, or other assets will be affected in any way. Undivided profits and surplus are in reality much the same thing. In short, capital stock, surplus, and undivided profits together represent the net worth of the stockholders or their net claim against total assets.

(d) Reduce bonds and securities $15,000 and reduce undivided profits $15,000.

(e) This transaction is impossible. In order to increase the legal reserve it would be necessary either to rediscount more paper at the federal reserve bank or send the latter cash. The former plan, of course, is the more common but under either plan surplus would not be affected. Instead, the item, "due from federal reserve bank," would be increased and either "notes rediscounted," a liability, would be increased or "cash" would be decreased.

(f) Reduce cash $40,000 and reduce undivided profits $40,000. The dividend is actually paid out of cash but this asset having been reduced, the net worth is smaller and therefore undivided profits must be reduced.

(g) Increase capital stock $1,000,000 and reduce surplus $1,000,000. This is simply a paper dividend, the equity or net worth of the stockholders being the same as before. No asset is affected because the bank

neither receives nor parts with any resources, and in case of dissolution the residue for distribution to the stockholders would be just the same as if no stock dividend had been declared.

19. A trust company inserted an advertisement in the newspapers to the effect that it was daily becoming a more substantial institution and cited as evidence these facts:

Deposits January 1, 1921.....	$1,200,000
" July 1, 1921.....	2,000,000

QUESTION: Is the increase of $800,000 in deposits necessarily an indication of strength?

ANSWER: No. On the contrary it may be an indication of weakness. In the case of a commercial bank deposits arise principally from loans and discounts. That is, customers obtaining loans and discounts take their proceeds in deposit accounts against which they later draw checks. Therefore, if a bank should follow a liberal policy in granting loans and discounts without proper collateral or adequate security it could very easily increase its deposits but at the same time weaken its financial position.

20. (a) From the following facts of a manufacturing plant determine in two different ways the merchandise turnover:

Cost price of average merchandise inventory.....	$60,000
Average selling profit based on cost.....	25%
Total sales.....	$300,000

(b) How long should the commercial paper of this firm run? and why?

SOLUTION:

(a)

Cost price of merchandise inventory.....	$60,000
Cost price of sales ($300,000 ÷ 125%).....	$240,000

Therefore turnover = $240,000 ÷ $60,000 = 4

or

Selling price of merchandise inventory.....	$75,000
Sales.....	$300,000

Therefore turnover = $300,000 ÷ $75,000 = 4

(b) Since turnover is 4 this means that it requires about 90 days for the average lot of goods to be sold. The commercial paper therefore should run ordinarily not much longer than 90 days.

21. The statements of a firm for two successive years show the following facts:

	1920	1921
Cash	$10,000	$20,000
Receivables	30,000	60,000
Merchandise	100,000	120,000
Total current assets	$140,000	$200,000
Accounts payable	$40,000	$60,000
Other current debts	30,000	40,000
Total current liabilities	$70,000	$100,000
Ratio of current assets to current liabilities	2 to 1	2 to 1
Ratio of merchandise to receivables	3 1/3 to 1	2 to 1

QUESTION: Assuming the moral risk and other factors to have remained unchanged, which of these two statements shows the stronger position from the viewpoint of the lending banker?

ANSWER: It is customary to carry merchandise at cost or market, whichever is the lower, whereas receivables are listed at face value, which includes a profit on merchandise sold. In 1920 the ratio of merchandise to receivables is $3\frac{1}{3}$ to 1, whereas in 1921 the ratio is reduced to 2 to 1. Although a higher current ratio might be expected in 1921 it remained unchanged. Consequently the statement for 1920 presents the stronger position, assuming, of course, that the quality of the merchandise and receivables is no better in 1921 than in 1920.

22. ACME CHEMICAL COMPANY

	1918	1921
Receivables	$75,000	$125,000
Sales	475,000	500,000
Terms	30 days net	30 days net

QUESTION: In which year, presumably, is the quality of the receivables the higher?

ANSWER: In 1918. The ratio of receivables to sales is about 1 to 6 for 1918 and 1 to 4 for 1921. This means that customers owed the firm for about 2 months' sales ($\frac{1}{6}$ of 12 months) in 1918 and for about 3 months' sales ($\frac{1}{4}$ of 12 months) in 1921, thus indicating slower collections and probably more bad debts in 1921 than in 1918.

23. The sales of a certain firm for 1920 were $1,440,000 and its terms were 5 per cent discount in 10 days, 30 days net.

QUESTION: What should be the average amount of the receivables?

SOLUTION: $40,000 or 10 days' sales. The average monthly sales are $120,000, which amounts to $40,000 for 10 days. If the customers are paying their bills promptly in order to take advantage of the 5 per cent discount, the average amount of the receivables should not represent more than 10 days' sales. A larger amount of receivables would ordinarily mean that the customers were short of working capital and were unable to borrow necessary funds at their banks, and this would probably eventually lead to a large amount of slow and uncollectible accounts.

24. If the statement of the above firm were as of a date at the peak of the selling season, how should the ratio of receivables to sales stand?

SOLUTION: The ratio of receivables to sales would naturally be greater and in the case given the receivables might increase to $80,000 or $100,000, depending on the nature of the business. For instance, in the men's clothing industry, which has two principal seasons, a concern's receivables on May 1 and November 1 might normally be almost equal to one-half year's sales.

25. Reserve relations of a member bank and a federal reserve bank:

STATEMENT OF CONDITION OF INDIAN NATIONAL BANK

Resources		
Cash	$454,282.04	
Due from federal reserve bank	3,590,715.47	
Exchanges for clearing house	2,928,884.46	
Due from banks and trust companies	1,768,759.57	
United States treasury certificates of indebtedness	428,000.00	$9,170,641.54
Demand loan	$6,162,491.98	
Notes discounted, secured by Liberty bonds, due within 90 days	724,100.00	
Notes discounted, due within 90 days	18,136,100.32	
	$25,022,692.30	
Notes discounted due within 6 months	5,124,768.87	30,147,461.17
United States Liberty bonds and Victory notes	$165,103.04	
Other bonds and securities	1,039,829.74	
Stock, federal reserve bank	150,000.00	1,354,932.78
Customers' liability account of acceptances executed		921,196.76
Bank acceptances sold with indorsement		70,000.00
		$41,664,232.25

Liabilities

Demand deposits		$28,801,860.27
Time deposits subject to 30 days' notice		1,410,375.39
		$30,212,235.66
Acceptances executed for customers		1,081,529.00
Notes rediscounted		3,500,000.00
Indorsement on bank acceptances sold		70,000.00
Capital	$2,000,000.00	
Surplus	3,000,000.00	
Undivided profits	1,591,861.74	
Reserved for taxes	208,605.85	6,800,467.59
		$41,664,232.25

Documentary letters of credit issued but not used or drawn against	$123,295.95
Travelers' letters of credit not drawn against	90,359.54

CONDITION OF FEDERAL RESERVE BANK OF BOSTON

Resources	Oct. 19, 1921	*Liabilities*	Oct. 19, 1921
Total gold	$258,526,000	Capital	$7,935,000
Legal tender and silver	16,748,000	Surplus	19,068,000
		Deposits: Government	1,699,000
Total cash reserves	$275,274,000	Member bank reserves,	113,848,000
Discounts secured by United States securities	24,847,000	All other	968,000
Discounts, commercial paper	46,953,000	Total deposits	$116,515,000
Bankers' acceptances purchased	4,500,000	Federal reserve notes	231,940,000
United States securities against federal reserve bank notes	13,936,000	Federal reserve bank notes	7,906,000
Other United States securities owned	730,000	Collection items	46,640,000
		All other liabilities	1,323,000
Total earning assets	$90,966,000		
Uncollected items	59,833,000		
Other resources	5,254,000		
Total resources	$431,327,000	Total liabilities	$431,327,000
		Reserve ratio	79.0%

QUESTION 1. During the next six months the Indian National Bank discounts at the federal reserve bank $10,000,000 of commercial paper. The discount rate is 5 per cent and the paper runs on the average 30 days. The Indian National Bank takes $200,000 of the proceeds in federal reserve

notes and leaves the remainder on deposit. Show the necessary changes in the statements of the federal reserve bank and the member bank.

QUESTION 2. (a) If member banks take all of their rediscounts in federal reserve notes how much additional paper could this federal reserve bank rediscount for its members, assuming that it does not borrow at other federal reserve banks? For purposes of illustration make no allowance for the small discount charge which in actual practice would be deducted from the face of the commercial paper before determining the proceeds available for the member banks. Also start with the statement of the federal reserve bank given at the beginning of the problem.

(b) Answer the same question as under (a), assuming that the member banks leave all of their rediscounts on deposit.

(c) Answer the same question as under (a), assuming that the member banks take 1/10 of their rediscounts in federal reserve notes and leave the remainder on deposit.

SOLUTION 1:

5% discount on $10,000 for 30 days on 365-day basis is	$41,096
Proceeds of $10,000,000 paper is	9,958,904
Indian National Bank takes in federal reserve notes	200,000
Leaving on deposit balance of proceeds	$9,758,904

Changes in Indian National Bank's statement:

Resources

Cash increased	$200,000
Due from federal reserve bank increased	9,758,904
Total resources increased	$9,958,904

Liabilities

Notes rediscounted increased	$10,000,000
Undivided profits decreased	41,096
Total liabilities decreased	$9,958,904

Changes in federal reserve bank's statement:

Resources

Discounts, commercial paper increased	$10,000,000
Total resources increased	$10,000,000

Liabilities

Surplus increased	$41,096
Deposits: member bank reserves increased	9,758,904
Federal reserve notes increased	200,000
Total liabilities increased	$10,000,000

Reserve ratio now is 76.8 per cent. This is found by dividing the total cash reserves of $275,274,000 by the sum of the total deposits, which are now $126,273,904, and the federal reserve notes, which are now $232,140,000; or $275,274,000 ÷ 358,413,904.

SOLUTION 2: Federal reserve banks are required to maintain a minimum gold reserve of 40 per cent against federal reserve notes outstanding and a minimum cash reserve of 35 per cent against deposits. In the computation below the following abbreviations have been used to refer to items in the statement of the Federal Reserve Bank of Boston:

F.R.N. for federal reserve notes, $231,940,000
T.G. " total gold, $258,526,000
T.D. " total deposits, 116,515,000
T.C.R. " total cash reserves, $275,274,000

(a) Let x = amount of additional paper that could be rediscounted. Then:

[$231,940,000 (F. R. N.) + x] .40 = $258,526,000 (T. G.) − $24,032,250 (amount of gold necessary to be added to legal tender and silver to produce cash reserve of 35% against deposits)

Therefore:

x = $354,294,375, Answer

Proof:

$231,940,000 (F. R. N.)
+ 354,294,375, additional notes
$586,234,375 total notes
.40, (40% gold reserve)
$234,493,750, (total gold $258,526,000 − $24,032,250, the amount necessary to be added to legal tender and silver to produce reserve of 35 per cent against deposits)

(b) Let x = amount of additional paper that could be rediscounted. Then:

[$116,515,000 (T. D.) + x] .35 = $275,274,000 (T. C. R.) − $92,776,000 (40% of gold reserve against notes already outstanding)

Therefore:

$$x = \$404,907,857, \text{ Answer}$$

Proof:

$116,515,000, (T. D.)
+ 404,907,857, additional deposits

$521,422,857, new total deposits
.35, (35% cash reserve)

$182,498,000, (total cash reserves $275,274,000 − $92,776,000, the 40% gold reserve against notes already outstanding)

(c) Let x = amount of additional paper that could be rediscounted. Then:

$275,274,000 (T. C. R.) − .40 [$231,940,000 (F. R. N.)] − .40 (1/10 x) = .35 [$116,515,000 (T. D.) + .90 x]

Therefore:

$$x = \$399,204,929, \text{ Answer}$$

Proof:

$231,940,000 (F. R. N.)
+ 39,920,493, additional notes (1/10 of new paper)

$271,860,493, new total notes
.40, (40% gold reserve)

(1) $108,744,197, gold reserve against notes

$116,515,000 (T. D.)
+ 359,284,436, additional deposits (9/10 of new paper)

$475,799,436, new total deposits
.35, (35% cash reserve)

(2) $166,529,803, cash reserve against new total deposits

Adding (1) and (2):

$108,744,197
166,529,803

$275,274,000, total cash reserves

26. Relation of gold to loans and discounts: "Yesterday there arrived in New York on the steamship 'Roumania' $9,100,000 in gold to be delivered to the 18th National Bank." The 18th National Bank deposits all of this gold, with the Federal Reserve Bank of New York.

(a) How much additional paper can the federal reserve bank now rediscount for its members, assuming that the latter leave the entire proceeds of the rediscounts on deposit to the credit of their reserves?

(b) How much additional loans can member banks make to their customers on the basis of the increase in reserves as a result of rediscounting paper at the federal reserve bank as described under (a)?

SOLUTION: (a) Against balances due its member banks a federal reserve bank must maintain a cash reserve of 35 per cent. Therefore, $9,100,000 in gold would enable the Federal Reserve Bank of New York to increase its deposits, that is, balances due member banks, $\frac{\$9,100,000}{35 \text{ per cent}}$ or $26,000,000. Disregarding discount charges, the Federal Reserve Bank of New York can now rediscount for its members additional paper to the extent of $26,000,000—$9,100,000 (the gold itself will constitute a part of the deposits), or $16,900,000.

(b) The answer to this question will vary depending upon the location of the member banks. Those member banks which are located in New York City may increase their loans to such a point that the resulting demand deposits are covered by a 13 per cent reserve at the Federal Reserve Bank of New York. Banks located in Albany, Buffalo, and other reserve cities must maintain 10 per cent reserves, the ratio for country banks being 7 per cent. Against time deposits which are relatively small, member banks must maintain reserves of 3 per cent. For the sake of simplicity, if we take an average of 10 per cent for all member banks an increase in their reserves of $26,000,000 would enable them to increase their loans to customers to the extent of approximately $\frac{\$26,000,000}{10 \text{ per cent}}$ or $260,000,000, or almost 30 times the original gold. This figure, of course, is a theoretical maximum, but it gives some idea of the relation of gold to inflation during and immediately following the war.

27. The Washburn Chemical Co. of Boston on October 15 presented at the Hub National Bank for collection trade acceptances as follows:

(a) $10,000 drawn at 30 days after sight on Baker and Jones, Springfield, Mass.

(b) $8,000 drawn at 60 days after sight on Henry Allen, Providence.

(c) $15,000 drawn at 30 days after date October 15, on Garland Brothers, Worcester.

The Hub National Bank immediately forwards the drafts to its correspondents who present them to the drawees for acceptance; the correspondent banks then hold the acceptances until maturity for payment. On October 17 the Hub National Bank notifies the Washburn Chemical Company that its three drafts have been accepted as of October 16. On October 20 the Washburn Chemical Company arranges with the Hub National Bank to discount this paper at 7 per cent. What will be the total proceeds received by the Washburn Chemical Company?

SOLUTION:

(a) Amount of acceptance, $10,000	
Date accepted October 16	
Due November 15	
Discounted October 20, at 7% for 26 days:	
6% on $10,000 for 30 days	$50.00
Add 1/6	8.33
7% for 30 days	$58.33
$\frac{26}{30}$ of $58.33	$50.55
	$10,000.00
	−50.55
Proceeds of (a)	$9,949.45

(b) Amount of acceptance, $8,000	
Date accepted October 16	
Due December 15	
Discounted October 20 for 56 days at 7%:	
6% for 60 days	$80.00
Add 1/6	13.33
7% for 60 days	$93.33
$\frac{56}{60}$ of $93.33	$87.11
	$8,000.00
	−87.11
Proceeds of (b)	$7,912.89

(c) Amount of acceptance, $15,000
Date accepted October 16
Due November 14
Discounted October 20 for 25 days at 7%:

6% for 30 days	$75.00
Add 1/6	12.50
7% for 30 days	$87.50
$\frac{25}{30}$ of $87.50	$72.92
	$15,000.00
	−72.92
Proceeds of (c)	$14,927.08
Proceeds of (b)	7,912.89
Proceeds of (a)	9,949.45
Total proceeds	$32,789.42

28. On October 1 the Washburn Chemical Company of Boston bought a lot of goods amounting to $75,000 from a firm in Newark, New Jersey. According to the terms of the sale the buyer opens a 60 days' credit at the Hub National Bank in favor of the Newark firm. After having made shipment the Newark firm on October 21 draws a draft at 60 days after date on the Hub National Bank and attaches to it the bill of lading. The draft is accepted on October 22. On October 25 the Newark firm arranges with its local bank to discount the bank acceptance at 6½ per cent. What are the proceeds?

SOLUTION:

Amount of draft, $75,000
Date accepted October 22
Due December 20
Discounted October 25 for 56 days at 6 1/2%:

6% for 60 days	$750.00
Add 1/12	62.50
6 1/2% for 60 days	$812.50
$\frac{56}{60}$ of $812.50	$758.33
	$75,000.00
	−758.33
Proceeds	$74,241.67

29. The following statements have been taken in part from the weekly foreign section of a financial publication. Supply in each of the blank spaces the word "*advance*" or "*decline*" with the necessary modifications as the case may require.

(a) Leading European banks lowered their discount rates and exchange ———.

(b) There was a good supply of commercial bills, especially against cotton, and exchange ———.

(c) Merchandise exports were large, but in the previous months bills had been drawn against future shipment of goods, and consequently exchange did not ———.

(d) There was a belief that the Morgan syndicate would get a large part of the $50,000,000 new issue of New York City bonds to be placed abroad, and exchange ———.

(e) American securities were sold in New York for European acount, and exchange ———.

(f) A slight ——— in exchange was caused by the placing abroad of some choice investment securities.

(g) Exchange dealers sought to cover for contracts for future delivery of exchange made earlier in the year and which are now maturing; as a result, exchange ———.

(h) Rates ———, mainly as the result of drawing against credit which had been established abroad through the previous sales of considerable blocks of railway stock.

(i) Political unrest in Europe and the probable issue of government loans by France, led to a ——— in exchange.

(j) A severe monetary stringency in New York led to American banks drawing on their balances in European banks, and exchange ———.

ANSWER:

(a) Advanced
(b) Declined
(c) Decline
(d) Declined
(e) Advanced
(f) Decline
(g) Advanced
(h) Declined
(i) Decline
(j) Declined

30. The Atlantic Export Company of Boston has sold some merchandise to a firm in Copenhagen. The latter's bank has arranged with its London correspondent for the acceptance of 90-day sight bills properly drawn and with the necessary documents attached to the amount of £3,000.

What are the proceeds which the Boston banker will pay the Atlantic

Export Company for their 90-day bill of £3,000 if the demand rates for bankers' checks on London are quoted at $4.40, the London discount rate for 90-day bills is 6 per cent, and the English stamp charges are 1/20 per cent of face of bill? Allow the Boston banker as a margin of profit ¼ cent per £.

In England 365 days are always used as the basis of computing discount. On 30, 60, and 90-day sight bills, 3 days of grace are allowed.

SOLUTION:

Basis £100		$440.00
Deduct discount, 93 days' interest, at 6%	$6.73	
Deduct English stamp charges at 1/20%	0.22	
Deduct Boston banker's margin of profit, 1/4 cent per £	0.25	
Total deductions per £100		7.20
Proceeds per £100		$432.80
Rate per £ for 90-day bill		4.328
Proceeds from sale of 90-day bill for £3,000		$12,984.00

APPENDIX B

PROBLEMS WITHOUT SOLUTIONS

31. A mining company sends to the United States Mint 12,000 ounces of gold .925 fine. The mint charges 2 cents an ounce for removing the impurities. The gold is coined in pieces of standard fineness. The only other charge that is made is 2½ cents per ounce for the copper alloy. How much gold will the company receive?

32. Suppose that the weight of the gold dollar is decreased 1 per cent. What will be the price of gold per fine ounce?

33. Suppose that the weight of the gold dollar is decreased 1 per cent. What will be the par of exchange with England? With France?

34. Suppose that the gold dollar is 10/11 fine, with no change in weight. What will be the mint price of gold per fine ounce?

35. Suppose that the gold dollar is 10/11 fine, with no change in weight. What will be the par of exchange with England? With France?

36. (a) If $150 of gold coin is melted what will the gold bullion be worth?

(b) If $150 in silver dollars is melted what will the silver bullion be worth? Use latest market price for metal.

Assume in each case that the gold and silver coins are full weight and have not been worn from circulation.

(c) Answer the same question for silver assuming that money is in the form of subsidiary silver instead of dollar pieces.

37. A merchant negotiates a loan at his bank by discounting a 60-day non-interest-bearing note for $6,000 which has been received from a customer. The note is discounted at 6 per cent on the day it is received and the borrower agrees to maintain a deposit balance of 20 per cent of the loan, or, say, $1,200.

(a) What is the real rate of interest paid by the borrower, assuming that the bank pays no interest on deposit balances?

(b) Answer the same question, assuming that the bank pays 2 per cent interest on the deposit balance, which averages $1,200.

38. On June 15 a merchant presents for discount at his bank a note dated the same day for $7,000 due in 60 days. The note bears 7 per cent

interest and the bank's rate of discount is 7 per cent. What will the note yield to the merchant?

On July 3 the bank sells the note to another bank on a 6 per cent discount basis. What profit will the first bank make by the transaction? The second bank?

39. (a) If a bill is drawn to mature 2 months from February 18, when does it become due?

(b) If a bill is drawn to mature 60 days from February 18, when does it become due?

40. Find the net proceeds of a 60-day note for $800 dated July 21, bearing 6 per cent interest and discounted July 28 at 5½ per cent.

41. On June 25 Dixon Brothers discounted at their bank a 90-day promissory note for $2,500, dated June 15 and bearing 6 per cent interest. The bank's discount rate is 6 per cent. What are the proceeds?

42. Determine the approximate time it will take for the following sums to double, triple, and quadruple themselves:

$100 at 4 per cent interest, interest compounded semiannually.

$300 at 5 per cent interest, interest compounded quarterly.

$600 at 5½ per cent interest, interest compounded monthly.

43. On July 1, 1922, $600 is deposited in a savings bank which pays 4½ per cent interest, compounded semiannually. What will the deposit amount to 15 years later?

44. A father wishes to set aside in a bank, at the birth of his son, a sum which will accumulate to $7,500 by the time his son reaches his majority. Assuming that the bank rate of interest is 4 per cent, compounded semiannually, what is the sum required?

45. A man puts $20 into a savings bank at the end of every month for 15 years. If the bank pays 4 per cent interest, compounded semiannually, what will the savings amount to at the end of 15 years?

46. Make such changes in the statement of the Puritan National Bank, shown in Problem 17, as are necessitated by the following transactions:

(a) $25,500 invested in stocks and bonds.

(b) $1,000 cash received for dividends and interest on stocks and bonds.

(c) $125,000 of new bills and notes discounted at an average rate of 5 per cent per annum and for an average time of 4 months. Those receiv-

ing loans take $10,000 in notes of the bank, $5,000 in legal tender, and the remainder in the form of deposit accounts.

(d) $3,500 in the notes of the bank are presented for redemption.

(e) At the clearing house the bank presents checks on other banks to the amount of $250,000 and receives for settlement depositor's checks on itself for $325,000.

(f) Bank sells at par a New York bank draft of $500 to a depositor who pays with his check.

(g) Of the notes and bills discounted in (c), $20,000 are renewed for an average time of 3 months at a discount rate of 5 per cent per annum, the discount being paid by depositors drawing checks against their bank balances, $45,000 are paid at maturity in checks on other banks, and the remainder are settled by depositors drawing checks against their bank balances.

47. Point out, with a brief explanation in each case, which of the following transactions would affect and which would not affect the surplus in the statement of the Puritan National Bank shown in Problem 17:

(a) Payment of salaries.
(b) Putting a new wing on the building.
(c) Payment of insurance on building.
(d) Increasing legal reserve against deposits.
(e) Declaring but not paying a cash dividend.
(f) Writing off a worthless account.
(g) Issuing additional stock at a 5 per cent premium.

48. Bank A advertises that during the past year its deposits increased 35 per cent. Bank B's deposits increased 6 per cent. Both of these institutions are commercial banks. Do these facts throw any light on the comparative strength of the two banks? Explain.

49. From the following facts of a manufacturing concern determine in two different ways the merchandise turnover:

Cost price of average merchandise inventory	$90,000
Average selling profit (based on selling price)	40 per cent
Total sales	$450,000

How long should the commercial paper of this concern run? Give reason.

50. The statements of a firm for two successive years show the following facts:

	1921	1922
Cash	$15,000	$10,000
Receivables	95,000	60,000
Merchandise	190,000	180,000
Total current assets	$300,000	$250,000
Accounts payable	$50,000	$45,000
Other current liabilities	100,000	80,000
Total current liabilities	$150,000	$125,000

Assuming that the moral risk and other factors have remained unchanged, which of the two statements show the stronger position from the viewpoint of the lending banker?

51. ELECTRIC MANUFACTURING COMPANY

	1920	1922
Receivables	$130,000	$180,000
Sales	400,000	850,000
Terms	30 days net	30 days net

In which year, presumably, is the quality of the receivables the higher? Explain briefly.

52. The sales of a certain firm for the past year were $800,000 and its terms were 5 per cent discount for payment within 10 days, 30 days net. What should be the average amount of receivables? Assuming that the firm has two main selling seasons, how large might the receivables become without indicating signs of weakness? Explain and point out what these signs of weakness are.

53. In working out this problem refer to the statements of the Indian National Bank and the Federal Reserve Bank of Boston shown in Problem 25. The Indian National Bank discounts at the federal reserve bank $6,500,000 of commercial paper. The discount rate is 5 per cent and the paper runs on the average 45 days. The Indian National Bank takes $100,000 of the proceeds in federal reserve notes and leaves the remainder on deposit. Calculate the necessary changes in the statements of the federal reserve bank and the member bank, including the federal reserve ratio.

54. The Federal Reserve Bank of New York receives $5,000,000 of gold deposits.

(a) If member banks take all of their rediscounts in federal reserve notes how much additional paper can the reserve bank rediscount for its

members, assuming that it does not borrow at other reserve banks? Make no allowance for discount charges.

(b) Answer the same question, assuming that member banks leave all of their rediscounts on deposit.

(c) Answer the same question, assuming that member banks take 1/20 of their rediscounts in federal reserve notes and leave the remainder on deposit.

55. "Yesterday there arrived in New York on the steamship 'City of Naples' $2,000,000 in gold to be delivered to the Hood National Bank." The Hood National Bank deposits all of this gold with the Federal Reserve Bank of New York.

(a) How much additional paper can the federal reserve bank now rediscount for its members, assuming that the latter leave the entire proceeds on deposit to the credit of their reserves?

(b) How much additional loans can member banks make to their customers on the basis of the increase in reserves as a result of rediscounting paper as described under (a)?

56. On September 28, John Jones, of Boston, sold R. M. Smith of Worcester, machinery amounting to $2,480, less 20, 25, and 10 per cent. Terms: one-half, 60-day note with interest at 6 per cent; one-half on account, 60 days. What was the amount of the note when received?

On October 12 Jones discounted at the Tenth National Bank, at 6 per cent, Smith's note dated September 28, the bank giving credit for the proceeds. If the bank charges 1/10 per cent for collecting out-of-town paper, what was the amount of the proceeds credited?

57. Explain the following operations:

Adams and Company of Boston, dealers in dry goods, arrange with the Hub National Bank to accept a draft for $28,000 payable in 90 days from date of October 1, the bank receiving ¼ per cent of the face of the acceptance for the privilege of so doing. The bank was given satisfactory security.

Adams and Company then sold the acceptance back to the Hub National Bank on the same day at 6 per cent discount, receiving the face of the draft less the discount, and this amount was placed to the credit of Adams and Company. On October 31 the Hub National Bank sold the acceptance to the Massachusetts National Bank at 5¾ per cent discount. On November 30 the Massachusetts National Bank sold the acceptance to the Worcester National Bank at a discount of 5½ per cent. How much profit did the Hub National Bank make, and how much the Massachusetts National Bank?

58. The following statements have been taken in part from the weekly foreign section of a financial publication. Supply in each of the blank spaces the word "advance" or "decline" with the necessary modifications as the case may require.

(a) It was claimed in some quarters that the action of the Federal Reserve Board in urging curtailment of borrowing at the federal reserve banks had led to the unloading of a large volume of sterling bills by exporters who felt doubtful of their ability to carry these bills, thus causing exchange to———.

(b) In part, the rapid———in sterling rates was due to hurried covering of outstanding short contracts, induced by the altered financial outlook.

(c) The ——— in sterling was correctly interpreted as reflecting marked improvement in Great Britain's economic and financial position.

(d) There were large additional arrivals of gold from London, and there were also reports of more consignments in prospect, but they had no effect in arresting the movement of exchange.

(e) Offerings of commercial bills continued heavy, and there appeared to be an utter lack of buying power, and exchange consequently———.

(f) In explaining the ——— in exchange on Argentina it was said that a large amount of merchandise had accumulated in the Buenos Aires Custom House and that Argentine consignees were declining to remove it, owing to extensive losses incurred on it through the ——— in the American dollar.

(g) During November silver declined steadily causing Far Eastern exchanges to———.

(h) Greek exchange ——— as a result of intimations by the allied powers that no further financial aid would be extended to Greece in the event of King Constantine's return to the throne.

(i) Leading European banks raised their discount rates and exchange ———.

APPENDIX C

INTEREST TABLES[1]

Interest tables showing interest on $1,000, 360-days-to-the-year basis and 365-days-to-the-year basis; also tables showing the amount of $1 at compound interest, the present worth of $1 due at some future period, and the amount of $1 set aside each period for a number of periods are given on the following pages.

In the United States it is the common banking practice to compute interest and discount on the basis of 30 days to the month and 360 days to the year, with no days of grace. Federal reserve banks, however, use the 365-day method. For sterling exchange calculations, interest and discount are figured on the basis of 365 days to the year, with 3 days of grace allowed on promissory notes and bills of exchange or drafts, except those drawn payable at sight, as in the case of bankers' checks.

These tables are greatly condensed from similar ones used in banking practice and have been selected primarily to serve as an aid in the solution of problems presented in the appendices and elsewhere, or which the instructor may devise.

[1] Adapted from Montgomery Rollins, Interest Tables, through courtesy of the Financial Publishing Company, Boston.

TABLE I.—INTEREST CALCULATED ON BASIS OF 360 DAYS TO THE YEAR

Interest on $1,000 — 1 Day to 1 Month

Days	4%	4 1/4%	4 1/2%	5%	5 1/2%	6%	6 1/2%	7%	7 1/2%
	$	$	$	$	$	$	$	$	$
1	0.1111	0.1181	0.1250	0.1389	0.1528	0.1667	0.1806	0.1944	0.2083
2	0.2222	0.2361	0.2500	0.2778	0.3056	0.3333	0.3611	0.3889	0.4167
3	0.3333	0.3542	0.3750	0.4167	0.4583	0.5000	0.5417	0.5833	0.6250
4	0.4444	0.4722	0.5000	0.5556	0.6111	0.6667	0.7222	0.7778	0.8333
5	0.5556	0.5903	0.6250	0.6944	0.7639	0.8333	0.9028	0.9722	1.0417
6	0.6667	0.7083	0.7500	0.8333	0.9167	1.0000	1.0833	1.1667	1.2500
7	0.7778	0.8264	0.8750	0.9722	1.0694	1.1667	1.2639	1.3611	1.4583
8	0.8889	0.9444	1.0000	1.1111	1.2222	1.3333	1.4444	1.5556	1.6667
9	1.0000	1.0625	1.1250	1.2500	1.3750	1.5000	1.6250	1.7500	1.8750
10	1.1111	1.1806	1.2500	1.3889	1.5278	1.6667	1.8056	1.9444	2.0833
11	1.2222	1.2986	1.3750	1.5278	1.6806	1.8333	1.9861	2.1389	2.2917
12	1.3333	1.4167	1.5000	1.6667	1.8333	2.0000	2.1667	2.3333	2.5000
13	1.4444	1.5347	1.6250	1.8056	1.9861	2.1667	2.3472	2.5278	2.7083
14	1.5556	1.6528	1.7500	1.9444	2.1389	2.3333	2.5278	2.7222	2.9167
15	1.6667	1.7708	1.8750	2.0833	2.2917	2.5000	2.7083	2.9167	3.1250
16	1.7778	1.8889	2.0000	2.2222	2.4444	2.6667	2.8889	3.1111	3.3333
17	1.8889	2.0069	2.1250	2.3611	2.5972	2.8333	3.0694	3.3055	3.5417
18	2.0000	2.1250	2.2500	2.5000	2.7500	3.0000	3.2500	3.5000	3.7500
19	2.1111	2.2431	2.3750	2.6389	2.9028	3.1667	3.4306	3.6944	3.9583
20	2.2222	2.3611	2.5000	2.7778	3.0556	3.3333	3.6111	3.8889	4.1667
21	2.3333	2.4792	2.6250	2.9167	3.2083	3.5000	3.7917	4.0833	4.3750
22	2.4444	2.5972	2.7500	3.0556	3.3611	3.6667	3.9722	4.2778	4.5833
23	2.5556	2.7153	2.8750	3.1944	3.5139	3.8333	4.1528	4.4722	4.7917
24	2.6667	2.8333	3.0000	3.3333	3.6667	4.0000	4.3333	4.6667	5.0000
25	2.7778	2.9514	3.1250	3.4722	3.8194	4.1667	4.5139	4.8611	5.2083
26	2.8889	3.0694	3.2500	3.6111	3.9722	4.3333	4.6944	5.0555	5.4167
27	3.0000	3.1875	3.3750	3.7500	4.1250	4.5000	4.8750	5.2500	5.6250
28	3.1111	3.3056	3.5000	3.8889	4.2778	4.6667	5.0556	5.4444	5.8333
29	3.2222	3.4236	3.6250	4.0278	4.4306	4.8333	5.2361	5.6389	6.0417
30	3.3333	3.5417	3.7500	4.1667	4.5833	5.0000	5.4167	5.8333	6.2500

TABLE 1 (continued)

Interest on $1,000 — 1 Month, 1 Day to 2 Months

Days	4%	4 1/4%	4 1/2%	5%	5 1/2%	6%	6 1/2%	7%	7 1/2%
	$	$	$	$	$	$	$	$	$
1	3.4444	3.6597	3.8750	4.3056	4.7361	5.1667	5.5972	6.0278	6.4583
2	3.5556	3.7778	4.0000	4.4444	4.8889	5.3333	5.7778	6.2222	6.6667
3	3.6667	3.8958	4.1250	4.5833	5.0417	5.5000	5.9583	6.4167	6.8750
4	3.7778	4.0139	4.2500	4.7222	5.1944	5.6667	6.1389	6.6111	7.0833
5	3.8889	4.1319	4.3750	4.8611	5.3472	5.8333	6.3194	6.8055	7.2917
6	4.0000	4.2500	4.5000	5.0000	5.5000	6.0000	6.5000	7.0000	7.5000
7	4.1111	4.3681	4.6250	5.1389	5.6528	6.1667	6.6806	7.1944	7.7083
8	4.2222	4.4861	4.7500	5.2778	5.8056	6.3333	6.8611	7.3889	7.9167
9	4.3333	4.6042	4.8750	5.4167	5.9583	6.5000	7.0417	7.5833	8.1250
10	4.4444	4.7222	5.0000	5.5556	6.1111	6.6667	7.2222	7.7778	8.3333
11	4.5556	4.8403	5.1250	5.6944	6.2639	6.8333	7.4028	7.9722	8.5417
12	4.6667	4.9583	5.2500	5.8333	6.4167	7.0000	7.5833	8.1666	8.7500
13	4.7778	5.0764	5.3750	5.9722	6.5694	7.1667	7.7639	8.3611	8.9583
14	4.8889	5.1944	5.5000	6.1111	6.7222	7.3333	7.9444	8.5555	9.1667
15	5.0000	5.3125	5.6250	6.2500	6.8750	7.5000	8.1250	8.7500	9.3750
16	5.1111	5.4306	5.7500	6.3889	7.0278	7.6667	8.3056	8.9444	9.5833
17	5.2222	5.5486	5.8750	6.5278	7.1806	7.8333	8.4861	9.1389	9.7917
18	5.3333	5.6667	6.0000	6.6667	7.3333	8.0000	8.6667	9.3333	10.0000
19	5.4444	5.7847	6.1250	6.8056	7.4861	8.1667	8.8472	9.5278	10.2083
20	5.5556	5.9028	6.2500	6.9444	7.6389	8.3333	9.0278	9.7222	10.4167
21	5.6667	6.0208	6.3750	7.0833	7.7917	8.5000	9.2083	9.9166	10.6250
22	5.7778	6.1389	6.5000	7.2222	7.9444	8.6667	9.3889	10.1111	10.8333
23	5.8889	6.2569	6.6250	7.3611	8.0972	8.8333	9.5694	10.3055	11.0417
24	6.0000	6.3750	6.7500	7.5000	8.2500	9.0000	9.7500	10.5000	11.2500
25	6.1111	6.4931	6.8750	7.6389	8.4028	9.1667	9.9306	10.6944	11.4583
26	6.2222	6.6111	7.0000	7.7778	8.5556	9.3333	10.1111	10.8889	11.6667
27	6.3333	6.7292	7.1250	7.9167	8.7083	9.5000	10.2917	11.0833	11.8750
28	6.4444	6.8472	7.2500	8.0556	8.8611	9.6667	10.4722	11.2778	12.0833
29	6.5556	6.9653	7.3750	8.1944	9.0139	9.8333	10.6528	11.4722	12.2917
30	6.6667	7.0833	7.5000	8.3333	9.1667	10.0000	10.8333	11.6666	12.5000

TABLE I (continued)

Interest on $1,000 — 2 Months, 1 Day to 3 Months

Days	4%	4 1/4%	4 1/2%	5%	5 1/2%	6%	6 1/2%	7%	7 1/2%
	$	$	$	$	$	$	$	$	$
1	6.7778	7.2014	7.6250	8.4722	9.3194	10.1667	11.0139	11.8611	12.7083
2	6.8889	7.3194	7.7500	8.6111	9.4722	10.3333	11.1944	12.0556	12.9167
3	7.0000	7.4375	7.8750	8.7500	9.6250	10.5000	11.3750	12.2500	13.1250
4	7.1111	7.5556	8.0000	8.8889	9.7778	10.6667	11.5556	12.4444	13.3333
5	7.2222	7.6736	8.1250	9.0278	9.9306	10.8333	11.7361	12.6389	13.5417
6	7.3333	7.7917	8.2500	9.1667	10.0833	11.0000	11.9167	12.8333	13.7500
7	7.4444	7.9097	8.3750	9.3056	10.2361	11.1667	12.0972	13.0278	13.9583
8	7.5556	8.0278	8.5000	9.4444	10.3889	11.3333	12.2778	13.2222	14.1667
9	7.6667	8.1458	8.6250	9.5833	10.5417	11.5000	12.4583	13.4167	14.3750
10	7.7778	8.2639	8.7500	9.7222	10.6944	11.6667	12.6389	13.6111	14.5833
11	7.8889	8.3819	8.8750	9.8611	10.8472	11.8333	12.8194	13.8056	14.7917
12	8.0000	8.5000	9.0000	10.0000	11.0000	12.0000	13.0000	14.0000	15.0000
13	8.1111	8.6181	9.1250	10.1389	11.1528	12.1667	13.1806	14.1944	15.2083
14	8.2222	8.7361	9.2500	10.2778	11.3056	12.3333	13.3611	14.3889	15.4167
15	8.3333	8.8542	9.3750	10.4167	11.4583	12.5000	13.5417	14.5833	15.6250
16	8.4444	8.9722	9.5000	10.5556	11.6111	12.6667	13.7222	14.7778	15.8333
17	8.5556	9.0903	9.6250	10.6944	11.7639	12.8333	13.9028	14.9722	16.0417
18	8.6667	9.2083	9.7500	10.8333	11.9167	13.0000	14.0833	15.1667	16.2500
19	8.7778	9.3264	9.8750	10.9722	12.0694	13.1667	14.2639	15.3611	16.4583
20	8.8889	9.4444	10.0000	11.1111	12.2222	13.3333	14.4444	15.5556	16.6667
21	9.0000	9.5625	10.1250	11.2500	12.3750	13.5000	14.6250	15.7500	16.8750
22	9.1111	9.6806	10.2500	11.3889	12.5278	13.6667	14.8056	15.9444	17.0833
23	9.2222	9.7986	10.3750	11.5278	12.6806	13.8333	14.9861	16.1389	17.2917
24	9.3333	9.9167	10.5000	11.6667	12.8333	14.0000	15.1667	16.3333	17.5000
25	9.4444	10.0347	10.6250	11.8056	12.9861	14.1667	15.3472	16.5278	17.7083
26	9.5556	10.1528	10.7500	11.9444	13.1389	14.3333	15.5278	16.7222	17.9167
27	9.6667	10.2708	10.8750	12.0833	13.2917	14.5000	15.7083	16.9167	18.1250
28	9.7778	10.3889	11.0000	12.2222	13.4444	14.6667	15.8889	17.1111	18.3333
29	9.8889	10.5069	11.1250	12.3611	13.5972	14.8333	16.0694	17.3056	18.5417
30	10.0000	10.6250	11.2500	12.5000	13.7500	15.0000	16.2500	17.5000	18.7500

TABLE 2—INTEREST CALCULATED ON BASIS OF 365 DAYS TO THE YEAR

Interest on $1,000 — 1 Day to 31 Days

Days	4%	4 1/4%	4 1/2%	5%	5 1/2%	6%	6 1/2%	7%	7 1/2%
	$	$	$	$	$	$	$	$	$
1	0.1096	0.1164	0.1233	0.1370	0.1507	0.1644	0.1781	0.1918	0.2055
2	0.2192	0.2329	0.2466	0.2740	0.3014	0.3288	0.3562	0.3836	0.4110
3	0.3288	0.3493	0.3699	0.4110	0.4521	0.4932	0.5342	0.5753	0.6164
4	0.4384	0.4658	0.4932	0.5479	0.6027	0.6575	0.7123	0.7671	0.8219
5	0.5479	0.5822	0.6164	0.6849	0.7534	0.8219	0.8904	0.9589	1.0274
6	0.6575	0.6986	0.7397	0.8219	0.9041	0.9863	1.0685	1.1507	1.2329
7	0.7671	0.8151	0.8630	0.9589	1.0548	1.1507	1.2466	1.3425	1.4384
8	0.8767	0.9315	0.9863	1.0959	1.2055	1.3151	1.4247	1.5342	1.6438
9	0.9863	1.0479	1.1096	1.2329	1.3562	1.4795	1.6027	1.7260	1.8493
10	1.0959	1.1644	1.2329	1.3699	1.5068	1.6438	1.7808	1.9178	2.0548
11	1.2055	1.2808	1.3562	1.5068	1.6575	1.8082	1.9589	2.1096	2.2603
12	1.3151	1.3973	1.4795	1.6438	1.8082	1.9726	2.1370	2.3014	2.4658
13	1.4247	1.5137	1.6027	1.7808	1.9589	2.1370	2.3151	2.4932	2.6712
14	1.5342	1.6301	1.7260	1.9178	2.1096	2.3014	2.4931	2.6849	2.8767
15	1.6438	1.7466	1.8493	2.0548	2.2603	2.4658	2.6712	2.8767	3.0822
16	1.7534	1.8630	1.9726	2.1918	2.4110	2.6301	2.8493	3.0685	3.2877
17	1.8630	1.9795	2.0959	2.3288	2.5616	2.7945	3.0274	3.2603	3.4931
18	1.9726	2.0959	2.2192	2.4658	2.7123	2.9589	3.2055	3.4521	3.6986
19	2.0822	2.2123	2.3425	2.6027	2.8630	3.1233	3.3836	3.6438	3.9041
20	2.1918	2.3288	2.4658	2.7397	3.0137	3.2877	3.5616	3.8356	4.1096
21	2.3014	2.4452	2.5890	2.8767	3.1644	3.4521	3.7397	4.0274	4.3151
22	2.4110	2.5616	2.7123	3.0137	3.3151	3.6164	3.9178	4.2192	4.5205
23	2.5205	2.6781	2.8356	3.1507	3.4658	3.7808	4.0959	4.4110	4.7260
24	2.6301	2.7945	2.9589	3.2877	3.6164	3.9452	4.2740	4.6027	4.9315
25	2.7397	2.9110	3.0822	3.4247	3.7671	4.1096	4.4521	4.7945	5.1370
26	2.8493	3.0274	3.2055	3.5616	3.9178	4.2740	4.6301	4.9863	5.3425
27	2.9589	3.1438	3.3288	3.6986	4.0685	4.4384	4.8082	5.1781	5.5479
28	3.0685	3.2603	3.4521	3.8356	4.2192	4.6027	4.9863	5.3699	5.7534
29	3.1781	3.3767	3.5753	3.9726	4.3699	4.7671	5.1644	5.5616	5.9589
30	3.2877	3.4931	3.6986	4.1096	4.5205	4.9315	5.3425	5.7534	6.1644
31	3.3973	3.6096	3.8219	4.2466	4.6712	5.0959	5.5205	5.9452	6.3699

TABLE 2 (continued)

Interest on $1,000 — 32 Days to 62 Days

Days	4%	4 1/4%	4 1/2%	5%	5 1/2%	6%	6 1/2%	7%	7 1/2%
	$	$	$	$	$	$	$	$	$
32	3.5068	3.7260	3.9452	4.3836	4.8219	5.2603	5.6986	6.1370	6.5753
33	3.6164	3.8425	4.0685	4.5205	4.9726	5.4247	5.8767	6.3288	6.7808
34	3.7260	3.9589	4.1918	4.6575	5.1233	5.5890	6.0548	6.5205	6.9863
35	3.8356	4.0753	4.3151	4.7945	5.2740	5.7534	6.2329	6.7123	7.1918
36	3.9452	4.1918	4.4384	4.9315	5.4247	5.9178	6.4110	6.9041	7.3973
37	4.0548	4.3082	4.5616	5.0685	5.5753	6.0822	6.5890	7.0959	7.6027
38	4.1644	4.4247	4.6849	5.2055	5.7260	6.2466	6.7671	7.2877	7.8082
39	4.2740	4.5411	4.8082	5.3425	5.8767	6.4110	6.9452	7.4795	8.0137
40	4.3836	4.6575	4.9315	5.4795	6.0274	6.5753	7.1233	7.6712	8.2192
41	4.4932	4.7740	5.0548	5.6164	6.1781	6.7397	7.3014	7.8630	8.4247
42	4.6027	4.8904	5.1781	5.7534	6.3288	6.9041	7.4794	8.0548	8.6301
43	4.7123	5.0068	5.3014	5.8904	6.4795	7.0685	7.6575	8.2466	8.8356
44	4.8219	5.1233	5.4247	6.0274	6.6301	7.2329	7.8356	8.4384	9.0411
45	4.9315	5.2397	5.5479	6.1644	6.7808	7.3973	8.0137	8.6301	9.2466
46	5.0411	5.3562	5.6712	6.3014	6.9315	7.5616	8.1918	8.8219	9.4521
47	5.1507	5.4726	5.7945	6.4384	7.0822	7.7260	8.3699	9.0137	9.6575
48	5.2603	5.5890	5.9178	6.5753	7.2329	7.8904	8.5479	9.2055	9.8630
49	5.3699	5.7055	6.0411	6.7123	7.3836	8.0548	8.7260	9.3973	10.0685
50	5.4795	5.8219	6.1644	6.8493	7.5342	8.2192	8.9041	9.5890	10.2740
51	5.5890	5.9384	6.2877	6.9863	7.6849	8.3836	9.0822	9.7808	10.4794
52	5.6986	6.0548	6.4110	7.1233	7.8356	8.5479	9.2603	9.9726	10.6849
53	5.8082	6.1712	6.5342	7.2603	7.9863	8.7123	9.4384	10.1644	10.8904
54	5.9178	6.2877	6.6575	7.3973	8.1370	8.8767	9.6164	10.3562	11.0959
55	6.0274	6.4041	6.7808	7.5342	8.2877	9.0411	9.7945	10.5479	11.3014
56	6.1370	6.5205	6.9041	7.6712	8 4384	9.2055	9.9726	10.7397	11.5068
57	6.2466	6.6370	7.0274	7.8082	8.5890	9.3699	10.1507	10.9315	11.7123
58	6.3562	6.7534	7.1507	7.9452	8.7397	9.5342	10.3288	11.1233	11.9178
59	6.4658	6.8699	7.2740	8.0822	8.8904	9.6986	10.5068	11.3151	12.1233
60	6.5753	6.9863	7.3973	8.2192	9.0411	9.8630	10.6849	11.5068	12.3288
61	6.6849	7.1027	7.5205	8.3562	9.1918	10.0274	10.8630	11.6986	12.5342
62	6.7945	7.2192	7.6438	8.4932	9.3425	10.1918	11.0411	11.8904	12.7397

TABLE 2 (continued)

Interest on $1,000 — 63 Days to 93 Days

Days	4%	4 1/4%	4 1/2%	5%	5 1/2%	6%	6 1/2%	7%	7 1/2%
	$	$	$	$	$	$	$	$	$
63	6.9041	7.3356	7.7671	8.6301	9.4932	10.3562	11.2192	12.0822	12.9452
64	7.0137	7.4521	7.8904	8.7671	9.6438	10.5205	11.3973	12.2740	13.1507
65	7.1233	7.5685	8.0137	8.9041	9.7945	10.6849	11.5753	12.4658	13.3562
66	7.2329	7.6849	8.1370	9.0411	9.9452	10.8493	11.7534	12.6575	13.5616
67	7.3425	7.8014	8.2603	9.1781	10.0959	11.0137	11.9315	12.8493	13.7671
68	7.4521	7.9178	8.3836	9.3151	10.2466	11.1781	12.1096	13.0411	13.9726
69	7.5616	8.0342	8.5068	9.4521	10.3973	11.3425	12.2877	13.2329	14.1781
70	7.6712	8.1507	8.6301	9.5890	10.5479	11.5068	12.4657	13.4247	14.3836
71	7.7808	8.2671	8.7534	9.7260	10.6986	11.6712	12.6438	13.6164	14.5890
72	7.8904	8.3836	8.8767	9.8630	10.8493	11.8356	12.8219	13.8082	14.7945
73	8.0000	8.5000	9.0000	10.0000	11.0000	12.0000	13.0000	14.0000	15.0000
74	8.1096	8.6164	9.1233	10.1370	11.1507	12.1644	13.1781	14.1918	15.2055
75	8.2192	8.7329	9.2466	10.2740	11.3014	12.3288	13.3562	14.3836	15.4110
76	8.3288	8.8493	9.3699	10.4110	11.4521	12.4932	13.5342	14.5753	15.6164
77	8.4384	8.9657	9.4932	10.5479	11.6027	12.6575	13.7123	14.7671	15.8219
78	8.5479	9.0822	9.6164	10.6849	11.7534	12.8219	13.8904	14.9589	16.0274
79	8.6575	9.1986	9.7397	10.8219	11.9041	12.9863	14.0685	15.1507	16.2329
80	8.7671	9.3151	9.8630	10.9589	12.0548	13.1507	14.2466	15.3425	16.4384
81	8.8767	9.4315	9.9863	11.0959	12.2055	13.3151	14.4247	15.5342	16.6438
82	8.9863	9.5479	10.1096	11.2329	12.3562	13.4795	14.6027	15.7260	16.8493
83	9.0959	9.6644	10.2329	11.3699	12.5068	13.6438	14.7808	15.9178	17.0548
84	9.2055	9.7808	10.3562	11.5068	12.6575	13.8082	14.9589	16.1096	17.2603
85	9.3151	9.8973	10.4795	11.6438	12.8082	13.9726	15.1370	16.3014	17.4657
86	9.4247	10.0137	10.6027	11.7808	12.9589	14.1370	15.3151	16.4932	17.6712
87	9.5342	10.1301	10.7260	11.9178	13.1096	14.3014	15.4931	16.6849	17.8767
88	9.6438	10.2466	10.8493	12.0548	13.2603	14.4658	15.6712	16.8767	18.0822
89	9.7534	10.3630	10.9726	12.1918	13.4110	14.6301	15.8493	17.0685	18.2877
90	9.8630	10.4794	11.0959	12.3288	13.5616	14.7945	16.0274	17.2603	18.4931
91	9.9726	10.5959	11.2192	12.4658	13.7123	14.9589	16.2055	17.4521	18.6986
92	10.0822	10.7123	11.3425	12.6027	13.8630	15.1233	16.3836	17.6438	18.9041
93	10.1918	10.8288	11.4658	12.7397	14.0137	15.2877	16.5616	17.8356	19.1096

Table 3—Amount of $1 for Any Time from 1 to 45 Periods

Interest compounded annually 45 years; semiannually 22½ years; and quarterly for 11¼ years

Periods	2%	2 1/2%	3%	3 1/2%	4%
1	1.020 000	1.025 000	1.030 000	1.035 000	1.040 000
2	1.040 400	1.050 625	1.060 900	1.071 225	1.081 600
3	1.061 208	1.076 891	1.092 727	1.108 718	1.124 864
4	1.082 432	1.103 813	1.125 509	1.147 523	1.169 859
5	1.104 081	1.131 408	1.159 274	1.187 686	1.216 653
6	1.126 162	1.159 693	1.194 052	1.229 255	1.265 319
7	1.148 686	1.188 686	1.229 874	1.272 279	1.315 932
8	1.171 659	1.218 403	1.266 770	1.316 809	1.368 569
9	1.195 093	1.248 863	1.304 773	1.362 897	1.423 312
10	1.218 994	1.280 085	1.343 916	1.410 599	1.480 244
11	1.243 374	1.312 087	1.384 234	1.459 970	1.539 454
12	1.268 242	1.344 889	1.425 761	1.511 069	1.601 032
13	1.293 607	1.378 511	1.468 534	1.563 956	1.665 074
14	1.319 479	1.412 974	1.512 590	1.618 695	1.731 676
15	1.345 868	1.448 298	1.557 967	1.675 349	1.800 944
16	1.372 786	1.484 506	1.604 706	1.733 986	1.872 981
17	1.400 241	1.521 618	1.652 848	1.794 676	1.947 901
18	1.428 246	1.559 659	1.702 433	1.857 489	2.025 817
19	1.456 811	1.598 650	1.753 506	1.922 501	2.106 849
20	1.485 947	1.638 616	1.806 111	1.989 789	2.191 123
21	1.515 666	1.679 582	1.860 295	2.059 432	2.278 768
22	1.545 980	1.721 571	1.916 103	2.131 512	2.369 919
23	1.576 899	1.764 611	1.973 587	2.206 115	2.464 716
24	1.608 437	1.808 726	2.032 794	2.283 329	2.563 304
25	1.640 606	1.853 944	2.093 778	2.363 245	2.665 836
26	1.673 418	1.900 293	2.156 591	2.445 959	2.772 470
27	1.706 887	1.947 800	2.221 289	2.531 567	2.883 369
28	1.741 024	1.996 495	2.287 928	2.620 172	2.998 703
29	1.775 845	2.046 407	2.356 566	2.711 878	3.118 652
30	1.811 362	2.097 568	2.427 263	2.806 794	3.243 398
31	1.847 589	2.150 007	2.500 080	2.905 032	3.373 133
32	1.884 541	2.203 757	2.575 083	3.006 708	3.508 059
33	1.922 231	2.258 851	2.652 335	3.111 942	3.648 381
34	1.960 676	2.315 322	2.731 905	3.220 860	3.794 316
35	1.999 890	2.373 205	2.813 863	3.333 590	3.946 089
36	2.039 887	2.432 535	2.898 278	3.450 266	4.103 933
37	2.080 685	2.493 349	2.985 227	3.571 025	4.268 090
38	2.122 299	2.555 682	3.074 784	3.696 011	4.438 814
39	2.164 745	2.619 575	3.167 027	3.825 372	4.616 366
40	2.208 040	2.685 064	3.262 038	3.959 260	4.801 021
41	2.252 201	2.752 190	3.359 899	4.097 834	4.993 062
42	2.297 245	2.820 995	3.460 696	4.241 258	5.192 784
43	2.343 189	2.891 520	3.564 517	4.389 702	5.400 495
44	2.390 053	2.963 808	3.671 452	4.543 342	5.616 515
45	2.437 854	3.037 903	3.781 596	4.702 359	5.841 176

TABLE 4—PRESENT WORTH OF $1 DUE AT ANY TIME FROM 1 TO 45 PERIODS

Interest compounded annually 45 years; semiannually for 22½ years; and quarterly for 11¼ years

Periods	2%	2 1/2%	3%	3 1/2%	4%
1	.980392157	.975609756	.970873786	.966183575	.961538462
2	.961168781	.951814396	.942595909	.933510700	.924556213
3	.942322335	.928599411	.915141659	.901942706	.888996359
4	.923845426	.905950645	.888487048	.871442228	.854804191
5	.905730810	.883854288	.862608784	.841973167	.821927107
6	.887971382	.862296866	.837484257	.813500644	.790314526
7	.870560179	.841265235	.813091511	.785990961	.759917813
8	.853490371	.820746571	.789409234	.759411556	.730690205
9	.836755266	.800728362	.766416732	.733730972	.702586736
10	.820348300	.781198402	.744093915	.708918814	.675564169
11	.804263039	.762144782	.722421277	.684945714	.649580932
12	.788493176	.743555885	.701379880	.661783298	.624597050
13	.773032525	.725420376	.680951340	.639404153	.600574086
14	.757875025	.707727196	.661117806	.617781790	.577475083
15	.743014730	.690465557	.641861947	.596890619	.555264503
16	.728445814	.673624934	.623166939	.576705912	.533908176
17	.714162562	.657195057	.605016446	.557203779	.513373246
18	.700159375	.641165909	.587394608	.538361140	.493628121
19	.686430760	.625527716	.570286027	.520155690	.474642424
20	.672971333	.610270943	.553675754	.502565884	.456386949
21	.659775817	.595386286	.537549276	.485570903	.438833602
22	.646839036	.580864669	.521892501	.469150631	.421955387
23	.634155918	.566697238	.506691748	.453285634	.405726333
24	.621721488	.552875354	.491933736	.437957134	.390121474
25	.609530871	.539390589	.477605569	.423146989	.375116802
26	.597579285	.526234721	.463694727	.408837671	.360689233
27	.585862044	.513399728	.450189056	.395012242	.346816570
28	.574374553	.500877784	.437076753	.381654340	.33347747I
29	.563112307	.488661252	.424346362	.368748155	.320651415
30	.552070889	.476742685	.411986760	.35627841I	.308318668
31	.541245970	.465114815	.399987145	.344230348	.296460258
32	.530633304	.453770551	.388337034	.332589709	.285057940
33	.520228729	.442702977	.377026227	.321342714	.274094173
34	.510028166	.431905343	.366044900	.310476052	.263552090
35	.500027613	.421371066	.355383398	.299976862	.253415471
36	.490223150	.411093723	.345032425	.289832717	.243668722
37	.480610932	.401067047	.334982937	.280031610	.234296848
38	.471187188	.391284924	.325226152	.270561942	.225285431
39	.461948223	.381741389	.315753546	.261412505	.216620606
40	.452890415	.372430624	.306556841	.252572468	.208289045
41	.444010211	.363346950	.297628001	.244031370	.200277928
42	.435304128	.354484829	.288959224	.235779102	.192574930
43	.426768753	.345838858	.280542936	.227805895	.185168202
44	.418400739	.337403764	.272371782	.220102314	.178046348
45	.410196803	.329174404	.264438624	.212659241	.171198412

TABLE 5—AMOUNT OF $1 SET ASIDE EACH PERIOD FOR 1 TO 45 PERIODS

Interest compounded annually 45 years; semiannually 22½ years; and quarterly for 11¼ years

Periods	2%	2 1/2%	3%	3 1/2%	4%
1	1.000 000	1.000 000	1.000 000	1.000 000	1.000 000
2	2.020 000	2.025 000	2.030 000	2.035 000	2.040 000
3	3.060 400	3.075 625	3.090 900	3.106 225	3.121 600
4	4.121 608	4.152 516	4.183 627	4.214 943	4.246 464
5	5.204 040	5.256 329	5.309 136	5.362 466	5.416 323
6	6.308 121	6.387 737	6.468 410	6.550 152	6.632 976
7	7.434 283	7.547 430	7.662 462	7.779 408	7.898 295
8	8.582 969	8.736 116	8.892 336	9.051 687	9.214 226
9	9.754 628	9.954 519	10.159 106	10.368 496	10.582 795
10	10.949 721	11.203 382	11.463 879	11.731 393	12.006 107
11	12.168 715	12.483 466	12.807 796	13.141 992	13.486 351
12	13.412 090	13.795 553	14.192 030	14.601 962	15.025 806
13	14.680 332	15.140 442	15.617 790	16.113 030	16.626 838
14	15.973 938	16.518 953	17.086 324	17.676 986	18.291 911
15	17.293 417	17.931 927	18.598 914	19.295 681	20.023 588
16	18.639 285	19.380 225	20.156 881	20.971 030	21.824 531
17	20.012 071	20.864 730	21.761 588	22.705 016	23.697 512
18	21.412 312	22.386 349	23.414 435	24.499 691	25.645 413
19	22.840 559	23.946 007	25.116 868	26.357 181	27.671 229
20	24.297 370	25.544 658	26.870 375	28.279 682	29.778 079
21	25.783 317	27.183 274	28.676 486	30.269 471	31.969 202
22	27.298 984	28.862 856	30.536 780	32.328 902	34.247 970
23	28.844 963	30.584 427	32.452 884	34.460 414	36.617 889
24	30.421 863	32.349 038	34.426 470	36.666 528	39.082 604
25	32.030 300	34.157 764	36.459 264	38.949 857	41.645 908
26	33.670 906	36.011 708	38.553 042	41.313 102	44.311 745
27	35.344 324	37.912 001	40.709 634	43.759 060	47.084 214
28	37.051 210	39.859 801	42.930 923	46.290 627	49.967 583
29	38.792 235	41.856 296	45.218 850	48.910 800	52.966 286
30	40.568 079	43.902 703	47.575 416	51.622 677	56.084 938
31	42.379 441	46.000 271	50.002 678	54.429 471	59.328 335
32	44.227 030	48.150 278	52.502 759	57.334 503	62.701 469
33	46.111 570	50.354 034	55.077 841	60.341 210	66.209 527
34	48.033 802	52.612 885	57.730 177	63.453 152	69.857 909
35	49.994 478	54.928 207	60.462 082	66.674 013	73.652 225
36	51.994 367	57.301 413	63.275 944	70.007 603	77.598 314
37	54.034 255	59.733 948	66.174 223	73.457 869	81.702 246
38	56.114 940	62.227 297	69.159 449	77.028 895	85.970 336
39	58.237 238	64.782 979	72.234 233	80.724 906	90.409 150
40	60.401 983	67.402 554	75.401 260	84.550 278	95.025 516
41	62.610 023	70.087 617	78.663 298	88.509 538	99.826 536
42	64.862 223	72.839 808	82.023 197	92.607 371	104.819 598
43	67.159 468	75.660 803	85.483 892	96.848 629	110.012 382
44	69.502 657	78.552 323	89.048 409	101.238 331	115.412 877
45	71.892 710	81.516 131	92.719 861	105.781 673	121.029 392

APPENDIX D

VALUES OF FOREIGN COINS

Values of foreign coins in terms of the American dollar are proclaimed by the federal Treasury Department to be as follows, October 1, 1921:

Country	Legal Standard	Monetary Unit	Value in Terms of U. S. Money	Remarks
Argentine Republic	Gold	Peso	$0.9648	Currency: Paper, normally convertible at 44 per cent of face value; now inconvertible.
Austria	Gold	Krone	.2026	
Belgium	Gold and silver	Franc	.1930	Member Latin Union; gold is actual standard.
Bolivia	Gold	Boliviano	.3893	12 1/2 bolivianos equal 1 pound sterling.
Brazil	Gold	Milreis	.5462	Currency: Government paper normally convertible at 16 pence (= $0.3244) per milreis.
British Colonies in Australasia and Africa	Gold	Pound sterling	4.8665	
Canada	Gold	Dollar	1.0000	
Central America:				
Costa Rica	Gold	Colon	.4653	
British Honduras	Gold	Dollar	1.0000	
Nicaragua	Gold	Cordoba	1.0000	
Guatemala	Silver	Peso	.4538	Guatemala: Currency, inconvertible paper.
Honduras				Honduras: Currency, bank notes.
Salvador	Gold	Colon	.5000	
Chile	Gold	Peso	.3650	Currency: Inconvertible paper.

Country	Legal Standard	Monetary Unit		Value in Terms of U. S. Money	Remarks
China	Silver	Tael	Amoy	$.7439	The tael is a unit of weight; not a coin. The customs unit is the Haikwan tael. The values of other taels are based on their relation to the value of the Haikwan tael. The Yuan silver dollar of 100 cents is the monetary unit of the Chinese Republic; it is equivalent to .644 + of the Haikwan tael.
			Canton	.7417	
			Cheefoo	.7116	
			Chin Kiang	.7268	
			Fuchau	.6882	
			Haikwan (customs)	.7570	
			Hankow	.6961	
			Kiaochow	.7209	
			Nankin	.7362	
			Niuchwang	.6977	
			Ningpo	.7153	
			Peking	.7253	
			Shanghai	.6708	
			Swatow	.6872	
			Takau	.7486	
			Tientsin	.7209	
		Dollar	Yuan	.4875	
			Hongkong	.4893	
			British	.4893	
			Mexican	.4929	Mexican silver pesos issued under Mexican decree of Nov. 13, 1918, are of silver content approximately 41% less than the dollar here quoted.
Colombia	Gold	Peso		.9733	Currency: Government paper and gold.
Cuba	Gold	Peso		1.0000	
Denmark	Gold	Krone		.2680	
Ecuador	Gold	Sucre		.4867	
Egypt	Gold	Pound (100 piasters)		4.9431	The actual standard is the British pound sterling, which is legal tender for 97 1/2 piasters.
Finland	Gold	Markka		.1930	
France	Gold and silver	Franc		.1930	Member Latin Union; gold is actual standard.
Germany	Gold	Mark		.2382	

Great Britian	Gold	Pound sterling	4.8665	
Greece	Gold and silver	Drachma	.1930	Member Latin Union; gold is actual standard.
Haiti	Gold	Gourde	.2500	Currency: Inconvertible paper.
India [British]	Gold	Rupee	.4866	(10 rupees equal 1 pound sterling.)
Indo-China	Silver	Piaster	.4901	
Italy	Gold	Lira	.1930	Member Latin Union; gold is actual standard.
Japan	Gold	Yen	.4985	
Liberia	Gold	Dollar	1.0000	Currency: Depreciated silver token coins. Customs duties are collected in gold.
Mexico	Gold	Peso	.4985	
Netherlands	Gold	Guilder (Florin)	.4020	
Newfoundland	Gold	Dollar	1.0000	
Norway	Gold	Krone	.2680	
Panama	Gold	Balboa	1.0000	
Paraguay	Gold	Peso (Argentine)	.9648	Currency: Depreciated Paraguayan paper currency.
Persia	Silver	Kran	.0836	Currency: Silver circulating above its metallic value. Gold coin is a commodity only, normally worth double the silver.
Peru	Gold	Libra	4.8665	
Philippine Islands	Gold	Peso	.5000	
Portugal	Gold	Escudo	1.0805	Currency: Inconvertible paper.
Rumania	Gold	Leu	.1930	
Russia	Gold	Ruble	.5146	
Santo Domingo	Gold	Dollar	1.0000	
Serbia	Gold	Dinar	.1930	
Siam	Gold	Tical	.3709	
Spain	Gold and silver	Peseta	.1930	Valuation is for gold peseta; currency is notes of the bank of Spain.
Straits Settlements	Gold	Dollar	.5678	
Sweden	Gold	Krona	.2680	
Switzerland	Gold	Franc	.1930	Member Latin Union; gold is actual standard.
Turkey	Gold	Piaster	.0440	(100 piasters equal to the Turkish £.)
Uruguay	Gold	Peso	1.0342	
Venezuela	Gold	Bolivar	.1930	

APPENDIX E

ALPHABETICAL LIST OF REFERENCES

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